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Director:

PABLO J. ANDUZE,

Dept. de Entomología. — Instituto de Higiene, Ministerio de Sanidad y Asistencia Social, Caracas, Venezuela, S. A.

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A KEY TO THE GENERA OF ECLYTINI (=THYMAR-
IDINI) * AND A REVISION OF THE NEOTROPICAL
SPECIES (HYMENOPTERA, ICHNEUMOIDAE)

H. K. Townes and M. C. Townes,

Takoma Park, Maryland, U. S. A.

The tribe Eclytini is a small widely distributed ichneumonid group of the subfamily Tryphoninae. Species of the tribe may be recognized as members of the Tryphoninae by the following characters: Egg with a slender stalk by which it is attached to the skin of the host and by which it may often be seen attached to the ovipositor before it is deposited; ovipositor without a subterminal dorsal notch; first segment of abdomen with a lateral pit or groove between its spiracle and base (except in *Atopotrophos*); second recurrent vein with two bullae (one in *Chiloplatys*) apical outer margin of fore tibia not produced into a small tooth or point; and clypeus separated from face by a distinct groove. The stalked egg is the most distinctive and constant character of the subfamily Tryphoninae. It is common to find specimens with the stalked eggs attached to the ovipositor.

The Eclytini differ from the rest of the Tryphoninae by the following combination of characters: Middle and hind tibiae each with a pair of spurs; clypeus rather large, not unusually short, completely concealing the labrum; areolet absent except in some species of *Eclytus*; propodeum regularly and more or less completely areolated, the combined length of the areola and basal area 1.4 to 2.5 as long as the petiolar

* If one bases the tribal name on that of the oldest included genus, Eclytini is the correct name; if priority of a supergeneric group name is the method of selection, Tymaridini is the correct name. The preference of the authors is to base the names of tribes, subfamilies, and families on that of the oldest included genus.

area; ovipositor about 2.5 as long as the apical depth of the abdomen (shorter in some species of *Eclytus*); body and legs slender; flagellum of female usually with a narrow white median band. The species are parasites of sawfly and lepidopterous larvae.

Since all but two of the described genera are known to occur in the Neotropical Region and since these two also probably occur there, a key to all of the described genera of the tribe is presented.

KEY TO THE GENERA OF ECLYTINI

1. Notaulus lacking; second recurrent vein with a single long bulla occupying most of its anterior half; frons with a prominent median longitudinal tubercle.....7. *Chyloplatys*.
Notaulus present and long, usually reaching or surpassing the center of the mesoscutum..... 2
2. Mandible with a single, very long-pointed outer tooth and a short broad inner tooth which is not visible when the mandibles are closed; petiole without a lateral pit or groove on each side between its spiracle and base.....6. *Atopotrophos*.
Mandible with two more or less normal teeth, both of which are visible when the mandibles are closed; petiole with a lateral pit or groove on each side between its spiracle and base..... 3
3. Clypeus more than 0.65 as long as wide, very large, in the female produced in the center, (not at the margin) as a beak or nose, in the male simply convex..... 4
Clypeus less than 0.65 as long as wide, medium to large in size never produced in the center in the form of a beak or nose..... 5
4. Petiolar spiracle anterior to the middle of the petiole; clypeus of the female with a small specialized area at the apex of its protuberance and from this apex a groove curving backwards and downwards on each side to the base of the mandible; smaller species.....4. *Hybophanes*.
Petiolar spiracle posterior to the middle of the petiole; clypeus of the female without a specialized area at the apex of its protuberance and without a groove running from the apex of the protuberance to each mandible; larger species.....3. *Campothreptus*.
5. Teeth of mandible very unequal in size, the upper tooth about 3.0 as long as the lower one; eyes conspicuously hairy, in the female strongly converging below.....5. *Thymaris*.
Teeth of mandible subequal in size the upper tooth somewhat larger, but the upper tooth always less than twice as long as the lower one..... 6
6. Second to fourth tergites closely and rather coarsely punctate; eye hairy; central part of face strongly subtuberculately elevated.....2. *Neliopisthus*.
Second to fourth tergites very finely and inconspicuously punctate or impunctate; eye bare; central part of face weakly elevated.....1. *Eclytus*.

1. ECLYTUS

Eclytus Holmgren, 1855, Svenska Vet.—Akad. Handl. 1-127.

Genotype: *Eclytus ornatus* Holmgren.

This genus is known from four species including one undescribed) in the Nearctic Region and about six in the Palaearctic Region. It may be expected to be found in the higher mountains of the Neotropical Region.

2. NELIOPISTHUS

Neliopisthus Thomson, 1883, Opusc. Ent. 9:908.

Genotype: *Phytodietus elegans* Ruthe.

Polysphinctomorpha Ashmead, 1900, Proc. U. S. Nat. Mus. 23:59.

Genotype: (*Polysphinctomorpha luggeri* Ashmead) = *semi-rufus* Provancher.

This genus is known from one species in the Palaearctic Region, five in the Nearctic Region (including one undescribed), two in Madagascar, and the following one in Venezuela.

Neliopisthus pullatus, new species.

Male: Fore wing 4.5 mm. long; face 1.47 as wide (at narrowest point) as long (length from antennal sockets to clypeal foveae; lateral ocellus separated by 1.8 times its diameter from the eye; eye rather densely hairy; eyes converging ventrally; propodeum unusually long and weakly convex above; areoal and basal area not separated, this combined area approximately parallel-sided, 3.2 as long as wide, and 1.9 as long as the petiolar area; propodeum polished, with small, weak irregular wrinkling; apical 0.6 of first tergite with strong irregular longitudinal aciculation, not distinctly

punctate; central longitudinal part of first tergite somewhat elevated; dorsal longitudinal carinae of first tergite not distinct.

Black. Apical 0.7 of clypeus, mandible except for its brownish apex, mouthparts except palpi, and a stripe from the base of the mandible to the lower margin of the eye light buff; base of scape, pedicel, base and apex of femora, and tibiae tinged with dusky ferruginous.

Female: Unknown. The female is expected to have the face narrower than the male.

Type: ♂, Apartaderos, Venezuela, captured at 3,320 meters altitude, September, 1942 by P. J. Anduze (Caracas Museum).

Paratype: ♂, collected with the type (Townes Collection).

3. CAMPOTHREPTUS

Campothreptus Förster, 1868, Verh. Naturh. Ver. Preuss. Rheinlande 25:201.

Genotype: *Mesoleptus nasutus* Cresson.

Zagryphus Cushman, 1919. Proc. U. S. Nat. Mus. 56:377.

Genotype: *Mesoleptus nasutus* Cresson.

This genus is known only from the two species treated below.

KEY TO THE SPECIES OF CAMPOTHREPTUS

1. Abdomen, femora, and tibiae ferruginous: meso- and metapleurum with moderately coarse and strong punctation. *nasutus* Cresson.
- Abdomen, femora, and tibiae black or largely black; meso- and metapleurum with fine and weak punctation *atorruber*, new species.

Campothreptus nasutus Cresson.

Mesoleptus? *nasutus* Cresson, 1868, Trans. Amer. Ent. Soc. 2:103. ♂, ♀. Type: Pennsylvania, U. S. A. (type lost).

Campothreptus nasutus Townes, 1944, Mem. Amer. Ent. Soc. 11:124. Complete synonymy given.

Fore wing 6.4 mm. long; lateral ocellus separated from eye by about 1.3 its diameter; head densely punctate except that in the female the clypeus is rather sparsely and coarsely punctate; thorax with moderately dense coarse punctures, finer and weaker on the mesoscutum and scutellum; pleural areas of propodeum with rather dense coarse punctures, the median and lateral areas without distinct punctation, polished and slightly wrinkled; scutellum with lateral carinae becoming obsolete at about its mid-length; propodeal apophyses broadly triangular, about half as high as wide at the base and not well defined; petiole somewhat mat and with fine longitudinal wrinkles; second tergite mat, weakly and densely punctate, and with fine irregular longitudinal wrinkles; third tergite sculptured as the second but the wrinkling weaker and less extensive; fourth and following tergites with dense, weak, fine punctures.

Ferruginous. Head black, the mouthparts except rarely the mandibles ferruginous; clypeus of male, central part of face and sometimes other parts of the head stained with ferruginous; scape and pedicel ferruginous; in the female, segments one through four of the flagellum ferruginous, segments five through eight blackish, segments nine through fourteen white, and the rest of the flagellum black; flagellum of male colored approximately as in the female but with fewer segments white; anterior part of thorax sometimes stained with blackish; wings light brownish ferruginous; tarsi pale ferruginous; seventh tergite of male with a median apical triangular yellow spot; ovipositor sheath dark brown, its apical fourth whitish.

This species occurs in Mexico and in the eastern United States from Minnesota, Pennsylvania, and New Jersey, south to

Florida and Kansas. In the Philadelphia Museum are two females from "Mexico" and in the Washington Museum is a female labeled Orizaba, V. C., Mexico, January 9-16, 1890, H. Osborn.

In the United States the species occurs in grass and low herbage along roadsides and around the edges of fields and woods. Adults are on the wing from May to October but at least in the northern part of its range, are commonest in June and July.

Campothreptus atroruber, new species.

Male: Fore wing 8 mm. long; lateral ocellus separated from eye by 0.85 its diameter; head and thorax densely, weakly, and finely punctate except on the propodeum which is polished and impunctate. Punctuation strongest on face, clypeus, and mesoscutum. Scutellum without lateral carinae; propodeal apophyses triangular, as high as wide at the base; petiole polished, without punctuation or aciculation; second and following tergites weakly, closely, and finely punctate, most strongly punctate on the second tergite.

Black. Thorax except protothorax dark ferruginous, the mesoscutum with indefinite fuscous stripes; flagellum with the tenth to sixteenth segments white; hind basitarsus white, black on the basal 0.1 and infusate on the apical 0.2; coxae and petiole basally dark ferruginous; fore wing with a pale brown transverse band at the stigma and the basal part as far as the basal vein pale brown, the rest hyaline; sixth and seventh tergites with a median apical white mark, transverse on the sixth tergite and subcircular on the seventh.

Type: ♂, San Francisco at 1,200 meters altitude, Ecuador, August, 1938, William Clarke-MacIntyre (Townes Collection).

4. HYBOPHANES

Hybophanes Förster, 1868, Verh. Naturh. Ver. Preuss. Rheinlande 25:166.

Genotype: *Tryphon scabriculus* Gravenhorst.

Oedemopsis Tschek, 1868, Verh. Zool.-Bot. Ges. Wien 18:276.

Genotype: (*Oedemopsis rogenhoferi* Tschek) = *scabriculus* Gravenhorst.

Zarhynchus Ashmead, 1900, Proc. U. S. Nat. Mus. 23:59.
Preoccupied by Oberholser, 1899.

Genotype: *Tryphon nasutus* Cresson.

Rhynchothyreus Ashmead, 1900, Canad. Ent. 32:268.
New name for *Zarhynchus* Ashmead.

Oedematopsis Morley, 1908, British Ichneum. 3:268.
Emendation of *Oedemopsis* Tschek.

This genus is known from two species in the Palaearctic Region (one with a subspecies in southeastern Asia), one species in the Nearctic Region, one in the Australian Region, two undescribed species in China and Java, and the three Neotropical species described below.

KEY TO THE NEOTROPICAL SPECIES OF HYBOPHANES

1. Vertex and occiput black; propodeum and abdomen entirely black; malar space about 0.8 as long as the basal width of the mandible.

..... *pictus*, new species.
Vertex and occiput pale; propodeum black medially the rest ferruginous; first to fourth abdominal tergites black with the apex pale; malar space 0.4 to 0.6 as long as the basal width of the mandible.

2. Lateral ocellus separated from eye by 1.3 to 2.0 its diameter; malar space 0.5 to 0.6 as long as the basal width of the mandible; from a dorsal view, the temple 0.4 to 0.53 as long as the eye.....

..... *verminatus*, new species.
Lateral ocellus separated from eye by 0.5 its diameter; malar space 0.35 as long as the basal width of the mandible; from a dorsal view, the temple 0.3 as long as the eye..... *ranoculus*, new species.

Hyphobanes pictus, new species.

Male: Fore wing 4.6 mm. long; clypeus 0.88 as long as wide; malar space 0.8 as long as basal width of mandible lateral ocellus separated from eye by 1.5 its diameter; eye hairy; head polished, the frons laterally and the face finely punctate; frons with fine transverse wrinkling above each antennal socket; pronotum, mesoscutum, and mesopleurum pol-

ished, weakly and finely punctate; propodeum rather weakly longitudinally convex above; apical propodeal carina much stronger than the other propodeal carinae, triangularly projecting at its junctures with the median longitudinal carinae and less strongly projecting at its junctures with the lateral longitudinal carinae; first tergite 2.95 as long as wide; first to fourth tergites with fine sharp parallel longitudinal ridges, coarsest and most regular on the first tergite and finest and least regular on third and fourth tergites: fifth to seventh tergites polished and finely, weakly punctate.

Black. Mouthparts, clypeus, face, lower half of temple, anterior orbits on lower half of frons, underside of scape and pedicel, lower anterior part of pronotum, small spot on pronotum at upper end of epomia, stripe on mesopleurum from middle coxa to prepectal carina, postnotum, apex of scutellum, narrow stripe along upper edge of metapleurum, and fore and middle coxae yellow; propleurum pale ferruginous tinged with yellow; pronotum ferruginous, black anterior to the epomia; mesoscutum ferruginous, the anterior end of its median lobe blackish; scutellum ferruginous, its apex yellow; mesepisternum ferruginous with a yellow stripe extending from the middle coxa to the prepectal carina, the area adjacent to the base of the hind wing black; mesepimeron black; trochanters, femur, and tibia of front and middle legs pale ferruginous, their femora and tibiae tinged with brown at their apices; tarsi brownish, the anterior tarsus palest; hind coxa yellow with the apex brown and broad brown subventral inner and outer bands extending from the apex to near the base; first hind trochanter brown; second hind trochanter ferruginous; hind femur ferruginous, its apical 0.12 and sub-basal 0.3 brownish; hind tibia stramineous, brownish apically and subbasally; narrow apical and ventral margins of apical tergites whitish.

Type: ♂, Baños, Ecuador at 2200 metres altitude, May 3, 1939, William Clarke- MacIntyre (Townes Collection).

Hybophanes verminatus, new species

Type male: Fore wing 2.7 mm. long; clypeus 0.7 as long as wide; malar space 0.6 as long as basal width of mandible;

lateral ocellus separated from eye by 2.0 its diameter; eye bare (perhaps because hair has been rubbed off); head polished, the frons laterally and the face finely weakly punctate; pronotum, mesopleurum, and mesoscutum polished, weakly and finely punctate; notaulus posteriorly with a fine longitudinal wrinkle in its groove, the wrinkle of each notaulus joining on the disc of the mesoscutum, where they are met by an irregular series of short wrinkles; propodeum moderately convex above; apical propodeal carina slightly stronger than the other propodeal carinae, not projecting at its junctures with the longitudinal carine; first tergite 2.5 as long as wide; first to third tergites with fine, sharp, parallel longitudinal ridges, coarse and regular on the first tergite and finer and less regular on the second and third tergites; fourth and following tergites polished with very weak fine punctures, the fourth tergite medially with weak longitudinal aciculation.

Head and thorax light ferruginous, the abdomen mostly dark brown. Face, clypeus, anterior orbits mouthparts, lower half of temple, collar of pronotum, metapleurum, and postero-lateral part of propodeum more or less yellowish, the markings not well defined; interocellar area brownish; propodeum medially brown, tergites brown the first to the fourth, each with an apical transverse stramineous band; legs, stramineous and pale ferruginous, the hind tibia apically and sub-basally somewhat infuscated.

Paratype male: Similar to the type but slightly larger, the eyes and ocelli larger and the median brown propodeal mark more extensive. Fore wing 3.5 mm. long; malar space 0.5 as long as basal width of mandible; lateral ocellus separated from eye by 1.3 its diameter; fourth tergite finely longitudinally aciculate dorsally.

Type: ♂, near Guatemala City, Guatemala, 1932, C. N. Ainslie (Washington Museum).

Paratype: ♂, found at Brownsville, Texas, dead on lettuce imported from Mexico (Washington Museum).

Hybophanes ranoculus, new species.

Male: Fore wing 2.7 mm. long; malar space 0.35 as long as basal width of mandible; lateral ocellus separated from

eye by 0.5 its diameter; fourth tergite polished, weakly punctate medially and basally. Otherwise similar in structure and in color to *Hybophanes verminatus*.

Type: ♂, Bonito Prov., Pernambuco, Brazil, August 1, 1883, collected on cotton (Washington Museum).

This may be the same species as *Hybophanes verminatus* or may be a subspecies of it. The only important differences noted in the types are in the size of the eye and of the ocelli. The paratype of *H. verminatus* is somewhat intermediate between the type of that species and the type of *H. ranoculus*.

5. THYMARIS

Thymaris Förster, 1868, Verh. Naturh. Ver. Preuss. Rheinlande 25:151.

Genotype: (*Thymaris pulchricornis* Brischke)=*contaminatus* Gravenhorst.

Thymarus Thomson, 1883, Opusc. Ent. 9:908.

Genotype: (*Thymarus compressus* Thomson)=*contaminatus* Gravenhorst.

This genus is represented by one or perhaps two species in the Nearctic Region, several in the Palaearctic Region, one in Ceylon, one in Formosa, several undescribed species in the Oriental Region, and one undescribed species in New South Wales. It has not yet been taken in the Neotropical Region.

6. ATOPOTROPHOS

Atopognathus Cushman, 1919, Proc. Ent. Soc. Wash. 21:116. Preoccupied by Bigot, 1881.

Genotype: *Atopognathus collaris* Cushman.

Atopotrophos Cushman, 1940, Proc. U. S. Nat. Mus 88:365. New name for *Atopognathus* Cushman.

This genus is represented by an undescribed species in the Nearctic Region and by the species described below.

Atopotrophos bucephalus Cresson.

Mesoleptus ? *bucephalus* Cresson, 1868, Trans. Amer. Ent. Soc. 2:36. Type: ♂, Cordova, Mexico (Philadelphia Museum).

Atopognathus collaris Cushman, 1919, Proc. Ent. Soc. Wash. 21:117 ♂, ♀. Type: ♀, Rosslyn, Va. (Washington Museum). New synonymy.

Atopotrophos bucephalus Cushman, 1940, Proc. U. S. Nat. Mus. 88:366. *Bucephalus* compared with *collaris*.

A paratype of *bucephalus*, which I have compared with the types of *collaris*, shows no significant differences except for a somewhat larger size (fore wing 4.4 mm. long).

Fore wing about 4.0 mm. long; clypeus with the middle third of the apical margin concave; petiole about 4.2 as long as it is broad at the apex, polished with the apical part somewhat mat.

Piceous. Clypeus, pronotum, a narrow part of the mesopleurum next to the pronotum and tegula and apical margin of the abdominal tergites light brownish ferruginous; mouthparts, scape, pedicel, tegula, and legs stramineous; hind leg somewhat darker than the fore and middle legs its tarsus and and the tibia, especially apically and subbasally, infusate; flagellum of female with a white band.

This species occurs in Mexico (Cordova) and in the Southeastern United States, where it has been taken on rare occasions from, the District of Columbia south to Coleta, Alabama.

7. CHILOPLATYS, NEW GENUS

(See Figures)

Clypeus of female large, moderately convex transversely and very weakly convex longitudinally, its apex very slightly upturned; apical margin of clypeus rather evenly convex, the central half of the apical margin with a subapical irregular row of long slender irregularly spaced setae and an apical regular row of short stout regularly spaced setae; juncture of hypostomal and occipital carinae elevated as a small triangular tooth; teeth of mandible similar, the upper tooth about 1.7 as long as the lower tooth; face with a prominent median longitudinal tubercle; notaulus completely absent; sternaulus extending about 0.22 the distance to the middle coxa, not sharp; prepectal carina sharp, ending at the anterior edge of the mesopleurum only a short distance above the lower corner of the pronotum; scutellum very convex, without lateral carinae; propodeum areolated as figured; second recurrent vein with a single long bulla occupying most of its

upper half; venation otherwise rather typical of the tribe (see figure); tarsal claws pectinate on their basal third; petiole rather evenly expanded from near the base to the apex, 2.5 as long as wide, without dorsal carinae, the spiracle at its basal 0.42, its lateral groove large and deep, and with a dorso-lateral carina extending from its base to its apex; fourth and following tergites with large, thin, downward-projecting epipleura; subgenital plate large, completely sclerotized; ovipositor sheath slender, not widened near the middle; ovipositor rather slender, of approximately the same depth throughout. Head, thorax, and abdomen completely polished and impunctate, with a moderate amount of pubescence.

This genus may not belong to the Tryphoninae. It agrees with the various genera of Eclytini in habitus and in most characters, but it has a more slender ovipositor and the ovipositor sheath is not deepened submedially as in the more typical Eclytini. Finding that the present genus lays a stalked egg would clear any doubt it is correctly placed here.

Chiloplatys lucens, new species

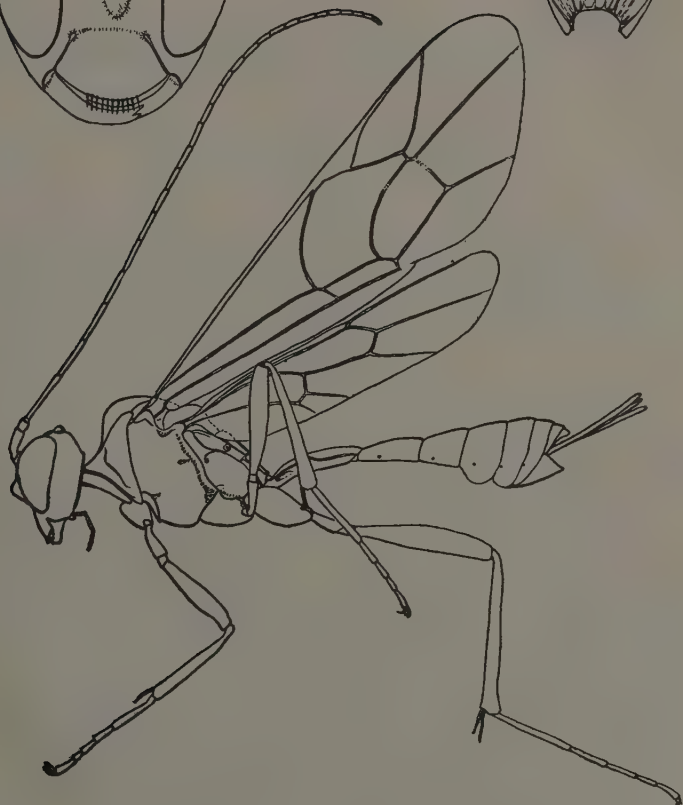
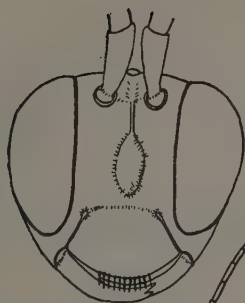
Forewing 4.7 mm. long. For structural characters, refer to the generic description and to the figures.

Shining, polished piceous. Mouthparts, trochanters, fore and middle coxae, apical margin of first three tergites, median part of apical margin of fourth and following tergites, basal margin of second and third tergites, epipleura of fourth and following tergites, and subgenital plate stramineous; scape, pedicel, posterior corner of pronotum, tegula, fore and middle femur and tibia, and fore tarsus pale ferruginous brown; flagellum basally light brown, the rest black; collar of pronotum indefinitely margined with light brown; hind coxa stramineous with a light brown dorso-lateral stripe; hind femur, tibia, and tarsus and middle tarsus brown.

Type: ♀, Tancitaro, Tancitaro, Michoacan, Mexico, 6586 ft., August 15, 1940, Harry Hoogstraal (Townes Collection).

EXPLANATION OF PLATES

Figures of *Chiloplatys lucens*, new genus, showing head as seen from directly in front of the face, propodeum as seen from behind, and side view of entire insect.



TWO NEW SPECIES OF AMERICAN SIRTENEAE (HEMIPTERA; REDUVIIDAE)

by

C. J. Drake and H. M. Harris,

Ames, Iowa.

The genus *Sirthenea* Spinola is represented in the Western Hemisphere by 10 species, including the two new forms described below. In most collections the species are poorly represented and often much confused. The types are deposited as indicated under each species.

Sirthenea anduzei, n. sp.

Moderately large, slender, markings above about as in *S. carinata* (Fabr.), beneath and on legs much as in *S. stria* (Fabr.), but recognizable from either at a glance by the roundly emarginate hind margin of pronotum.

Color: Head, pronotum, scutellum, apical half of hemelytra, thorax beneath, and venter in large part, fuscous black, the head paler apically; antennae fuscous brown, the base paler. Legs largely flavotestaceous, a narrow stripe beneath and an elongate spot on outside near apex of anterior femora, a spot before apex of intermediate femora, and the apical third of hind femora, dark fuscous; anterior tibiae within and tips of other tibiae embrowned. Hemelytra with basal half orange-red, except for a testaceous to fuscous spot which overlaps disc of clavus, inner angle of corium and base of membrane; apical part of corium and membrane fuscous black. Abdomen above largely fuscous, the connexivum mostly flavo-testaceous, sometimes maculate with fuscous. Venter

fuscous laterally and apically, the disc basally with an irregular-shaped spot flavo-testaceous; the connexivium entirely pale or maculate with fuscous.

Male: Head conspicuously hairy above, long, as long as distance across base of pronotum, the anteocular part equally as long as rest of head; vertex narrow, its width equal to distance from eye to antenna and distinctly less than diameter of an eye; gular width faintly less than vertex. Antennae moderately long, finely, shortly pilose, segment I slightly enlarged distally, just reaching apex of head, II stout, with three or four very long setae in addition to the thick clothing of short hairs, as long as distance across eyes; proportion of segments, 55:112:100:100. Eyes large, exserted. Ocelli large, placed about their own diameter apart and closer to eyes than to each other; the ocellar area of head moderately raised. Pronotum narrow; with lateral sulci deep, the median sulcus extending forward distinctly beyond middle of anterior lobe; the anterior lobe as long as broad, distinctly margined in front and laterally, the transverse impression finely regulose; posterior lobe slightly widened backward; its hind margin deeply roundly emarginate in front of scutellum. Scutellum produced into a long point; the side raised. Hemelytra extending a little beyond tip of abdomen. Legs stout, the anterior femora about $2\frac{1}{2}$ times as long as deep and subequally as long as front lobe of pronotum. Male paramere roughly triangular, with a distinct tooth at the upper hind margin. Genital segment produced into a slender upright process that is hidden by the parameres in repose.

Length: 16.1–17.0 mm. *Width:* 3.0–3.2.

Female: Larger than male, with smaller eyes, and ocelli, and different antennal proportions. Vertex fairly broad, wider than distance between eye and insertion of antenna, and one-third wider than an eye. Inter-ocular area on gula faintly broader than vertex, equal to length of an eyes as viewed from above. Ocellar area rounded, less prominently raised than in male. Ocelli large, distinctly closer to eyes than to each other, the inter-ocular distance equal to diameter of an

ocellus. Antennae stout, segment II slightly tapering, shorter than in male and not so thickly clothed with hairs; proportions, 60:95:80:85. Pronotum broader than in male, the sides slightly more rounded. Apex of last segment of venter broadly rounded.

Length: 19.0-20.0 mm. *Width*: 3.8-4.0 mm.

Holotype, male Barinas, Venezuela, Jan., 1943, Pablo Anduze. *Allotype* female, Nova Olinda, Rio Purus, Brazil, S. M. Klaeges. *Paratypes*, 1 Male taken with type, 2 female taken with allotype, 1 female, Hyutanahan, Rio Purús, Brazil, 1 male, Cacagualito, Colombia, and 1 male, Rio Frio, Colombia. Types in writers' collection; paratypes in collections of U. S. National Museum, Mr. J. C. Lutz, and Cornell University.

Sirthenea peruviana, n. sp.

Small, rather slender, brownish-black, the hemelytra with a large flavous spot on disc of corium; legs brownish, conspicuously marked with whitish testaceous.

Length, 16.8 mm. *Width*, 3.5. mm.

Male: Head clothed with long, bristly hairs, with a distinct postocular, transverse impression; ocellar area scarcely as tumid as in *S. vittata* Distant. Distance between eyes on gula distinctly less than diameter of an eye as viewed from below and subequal to width of vertex. Rostrum with segment two about three times as long as segment one. Antennae moderately long, brown, the terminal segment whitish testaceous, the second and third segments densely clothed with pale erect hairs, the length of the hairs distinctly longer than diameter of the segments; first segment thickened, curved, narrowed at base, attaining apex of head; second segment stout, third and fourth slenderer; proportions 45:110:90:92. Eyes large, somewhat exserted. Ocelli moderately large, closer to eyes than to each other, the interocellar space nearly equal to diameter of an ocellus.

Pronotum narrow, the lateral sulci moderately deep, the median sulcus deep behind, the front lobe subequally as long

as broad, slightly more than twice as long as posterior lobe, the transverse impression broad, with distinct rugae. Scutellum pointed, the sides raised. Hemelytra brown, with erect brown hairs, the flavous spot roughly broadly fusiform in shape, twice as long as broad, extending across outer corial vein but not attaining costal margin. Anterior legs stout, clothed with bristly hairs and a few extremely long hairs; femora stout, a large oval spot on outside, a streak above, and most of inner surface whitish-testaceous, tibia thickened apically, whitish-testaceous in front along basal half. Intermediate and hind legs densely hairy, the apex of coxae, base of femora and base of tibia whitish-testaceous. Connexivum with a whitish testaceous spot at the outer basal angle of each segment. Venter brownish, carinate along the median line. Male paramere roughly triangular, with a tooth at apex. Genital segment with a process at apex, this hidden by claspers when in repose.

Holotype: Male, Puerto Bermúdez, Rio Pichis, Peru, July, 1920 (in U. S. National Museum). *Paratypes*, 4, males taken with type, in collections of Cornell University and authors.

This species has been confused in collections with *S. vittata* Distant. It is slightly larger, however, has a less convex hind lobe of the head, and different color markings.

8
TIPULIDAE NUEVOS O POCO CONOCIDOS DE
VENEZUELA (DIPTERA)
NEW OR LITTLE-KNOWN TIPULIDAE FROM
VENEZUELA (DIPTERA)

Part VI

by

Charles P. Alexander,

Massachusetts State College, Amherst, Massachusetts.

The initial part of this series of papers was published in this *Boletín* (vol. 2: 17-26; 1943), the immediately preceding number in vol. 3:171-192; 1944. In the present part I wish to discuss a series of species belonging to the subfamily Tipulinae, bringing the total number recorded to this date to one hundred species.

As before, most of the species recorded for the first time from Venezuela are based on series of specimens that were taken by Mr. Pablo J. Anduze and Mr. René Lichy, chiefly in the Maritime Andes of the Estado Aragua where many further interesting discoveries will be made. A few further records result from the materials taken by Dr. John G. Myers on his trip to Mount Roraima in 1932. I am deeply obligated to the collectors for the privilege of retaining in my personal series of Tipulidae the various types of the new species.

TIPULINAE

79. *Ozodicera (Ozodicera) duidensis* Alexander.

1931. *Ozodicera (Ozodicera) duidensis* Alexander; Amer. Mus. Novitates 491; 2-3.

Mount Duida, November 30, 1928 - January 11, 1929 (G. H. H. Tate).

80. *Ozodicera (Ozodicera) striatipennis* Alexander.
1941. *Ozodicera (Ozodicera) striatipennis* Alexander;
Journ. N. Y. Ent. Soc., 49: 139-140.
Antímamo, D. F. alt. 900 mts. Jan. 13, 1940 (Lichy).

81. *Holorusia (Holorusia) flavicornis* Alexander.
1914. *Holorusia flavicornis* Alexander; Ent. News, 25:
352-353.

Venezuela, without more exact data (ex Fruhstorfer Collection in the Hungarian National Museum).

82. *Holorusia (Holorusia) longitarsis* (Macquart).
1846. *Tipula longitarsis* Macquart; Dipt. exot., suppl. 1:
17, pl. 2, fig. 2.

The types were from Colombia and Venezuela, without exact data. The species is not definitely recognizable from the description.

83. *Holorusia (Holorusia) strangalia* Alexander.
1926. *Holorusia strangalia* Alexander; Insec. Inscit. Menst.,
14: 162-163.

La Fría, Tachira, April 14-17, 1920; Tachira, Tachira, April 7, 1920 (E. B. & J. H. Williamson; W. H. Ditzler).

84. *Tanypremna (Tanypremna) perornata* Alexander.
1929. *Tanypremna perornata* Alexander; Journ. N. Y.
Ent. Soc., 37: 90-92.

La Fría, Tachira, April 12-14, 1920 (E. B. & J. H. Williamson; W. H. Ditzler).

85. *Brachypremna arcuaria triangularis* subsp. n.

Very similar to the typical subspecies (Ecuador: Napo-Pastaza), differing specially in the details of structure of the male hypopygium.

Ninth tergite with the lobes narrow and triangular in outline, their tips very narrowly obtuse, separated by a broad U-shaped emargination. In *arcuaria* Alexander, the lobes are broadly triangular, with obtuse tips, and are separated by a V-shaped notch that is narrower than either lobe. In both races these lobes are conspicuously glabrous. Dististyle with the basal spine unusually slender; outer blade of style with the apex produced into a flattened flange. Aedeagus unusually long and slender, toward the tip with small spinous points (apex broken in the only male available).

Holotype, ♂, Rancho Grande, Aragua, altitude 1.150 meters, August 27, 1944 (Lichy). *Allotopotype*, ♀, with the type. *Paratopotype*, 1 ♀, August 1943 (Lichy).

I believe that with more material available the present fly will be found to represent a distinct species, differing from *arcuaria* in the characters indicated above.

86. *Brachyremna breviventris* (Wiedemann).

1821. *Tipula breviventris* Wiedemann; Diptera Exotica, 1:43.

Southern slopes of Mount Roraima, altitude 4.000 feet, November 5, 1927 (Paulo). As has been indicated before, Phelps has clearly demonstrated that Roraima records pertain to Venezuela (Bol. Soc. Venezolana Cien. Nat., N° 36: 83-95, Map "E"; 1939).

(34) *Brachyremna dispellens* (Walker).

Motatán., Trujillo, June 2, 1938 (Vivas Berthier).

87. *Brachyremna laetiventris* sp. nov.

Size medium (wing, male, 17 mm.); general coloration of mesonotum almost uniformly brown, scarcely patterned; antennal flagellum black; femora brownish black, the tips narrowly whitened, the tibial bases similarly white; tips of tibiae white, most extensively so on the posterior legs where about the outer fourth of the segment is included; wings

brown, restrictedly patterned with darker brown and poorly indicated paler areas; pale droplets near wing-tip lacking; abdomen conspicuously variegated, dark brown with yellow rings, particularly conspicuous on the sternites; in life, the basal abdominal rings heavily light gray pruinose.

Male.—Length about 13 mm.; wing 17 mm.

Frontal prolongation of head above clear light yellow, including the nasus, ventral half abruptly dark brown; palpi bicolored, basal two segments brownish black, the incisures narrowly yellow; third segment yellow; terminal segment uniformly darkened, less than twice the length of the third. Antennae with scape yellow, pedicel pale brown; flagellum uniformly brownish black, the first segment enlarged. Head rich brown, vaguely patterned with still darker brown on anterior vertex.

Pronotum brown, more blackened on sides. Mesonotum almost uniform dark reddish brown, the praescutum without pattern excepting a small yellow spot on the sides before suture and a brightening before the humeral area; postnotum, including both mediotergite and pleurotergite, brown, without pattern. Pleura dark brown, restrictedly variegated with yellow on the posterior portion of the sternopleurite and ventral pteropleurite; dorsopleural membrane darkened. Halteres with stem weakly darkened, the base restrictedly pale, the knob slightly darker with its tip pale. Legs with coxae chiefly yellow pollinose, the fore pair patterned with dark brown at base, the posterior pair similarly infuscated on cephalic face; trochanters yellow; femora brownish black, the tips narrowly but conspicuously whitened; tibiae black, the bases narrowly white, in degree subequal to the femoral tip; tips of tibiae whitened, the amount differing on the various legs, on fore pair including the distal tenth or less or approximately twice the brightened base; on middle legs, the amount of white is slightly greater; on posterior tibiae the white tips include approximately the outer fourth of segment; on fore and middle legs, tarsi creamy-white with the proximal

third of basitarsi, immediately beyond origin, weakly infuscated; posterior tarsi uniformly whitened. Wings with a strong brownish ground, patterned with darker and vaguely paler areas; stigma oval, brown, narrowly ringed with still darker brown; most of the veins, with the exception of 1 *st. A*, vaguely seamed with darker, cell 2*nd. A* uniformly infuscated; centers of many cells, including areas before and beyond the origin of *Rs*, base and outer end of cell *M*, and much of the outer medial field with more yellowed areas but without the pale yellow droplets common in the genus; obliterative spots on veins M_2 to M_4 conspicuous; a clearer yellow spot before stigma in outer end of cell *Sc*; veins dark brown. Venation: Basal section of R_{4+5} relatively short so veins R_{2+3} and R_{4+5} at their bases are relatively close together and lie generally parallel to one another; tip of vein R_3 bent cephalad at its tip in a moderate curve only.

Abdomen with first tergite dark brown, broadly yellow pollinose on sides; second tergite dark brown, with conspicuous yellow central spot at near midlength, preceded in center and on either side by smaller isolated yellow spots; sides of tergite behind the yellow area pruinose; third and succeeding tergites dark brown, the basal rings very narrowly pale, becoming broader and more pruinose on sides, this pattern persisting through tergite seven; eighth segment uniformly dark brown; sternites very brightly patterned, each one broadly yellow with the incisures dark brown, the apex narrowly, the basal rings much more broadly of this color, their extreme cephalic portions gray pruinose to produce conspicuous silvery gray basal rings; hypopygium yellow, the tergite palest. It should be noted that after treatment with KOH and mounting in balsam that the gray pruinosity is lost. Male hypopygium with the caudal margin of tergite gently emarginate, forming very low lateral lobes that are provided with only a few strong setae. Dististyle with the outer lobe or style elongate, clavate, incurved toward the strongly curved apex of the main style, the latter obtuse at tip, its outer edge before apex with about ten strong setae.

Holotype, ♂, Mount Roraima, 1932 (J. G. Myers); Collector's Nº 3.192. The exact data in the Myers record are unavailable at this time.

Brachypremna laetixventris is entirely distinct from the various other species that have the abdominal pattern appearing as transverse bands and without median brown areas on the sternites. The almost uniformly darkened mesonotum and the diffusely patterned wings separate the fly from the most similar of these species, such as *B. clymene* Alexander and *B. sappho* Alexander, both of southeastern Brazil.

88. *Brachypremna similis* Williston.

1900. *Brachypremna similis* Williston; Biol. Centr.-Amer. Dipt. I, suppl., p. 229.

Caño del Tigre, Mérida, September 1943 (Anduze). Formerly from Central América.

89. *Brachypremna subuniformis* sp. nov.

Size medium (wing, male, about 18 mm.); thorax conspicuously patterned with dark brown; femora yellowish brown to light brown, with a conspicuous, nearly terminal brown ring, the extreme tip whitened; tibiae pale brown, the tip narrowly darker brown; tarsi brown, the outer segments more yellowish brown; wings with cell 2nd. A pale, dark at apex; abdomen with the black sternal areas pointed at both ends, not reaching the posterior border; male hypopygium with the apex of dististyle truncate, the outer tooth small, acute, placed at near two-fifths the length of the style.

Male.—Length about 14-15 mm.; wing 17-18 mm.

Female.—Length about 17 mm.; wing 18 mm.

Frontal prolongation of head yellow above, blackened on ventral half; nasus conspicuous, black; prolongation stout, its dorsal surface tumid; palpi with basal segment yellow; remaining segments brownish black, obscure yellow at their

tips. Antennae with scape, pedicel and proximal three flagellar segments yellow, the outer segments passing into black. Head with front and anterior vertex yellow or grayish yellow, the posterior vertex with two conspicuous brownish gray areas that are separated by a narrow pale median vitta; posterior orbits grayish yellow.

Pronotum with the restricted ground obscure yellow, with three broad brownish gray marks, the median one somewhat darker. Mesonotal praescutum buffy brown, with four stripes, the intermediate pair narrow, confluent and more or less polished at their anterior ends; lateral stripes wider but more diffuse; lateral borders of praescutum more grayish; scutum with lobes brown, ringed with darker brown, the median area pale; scutellum light yellowish gray, with a conspicuous median brown stripe, parascutella dark; mediotergite with the ground yellowish gray with three evident stripes, the median one narrower and more clearly defined, the lateral pair more pruinose; pleurotergite chiefly gray pruinose, regularly spotted with brown, the latter involving most of the sclerite, less evident on the dorsal pteropleurite. Halteres with stem yellow, knob blackened. Legs with coxae obscure yellow, patterned with dark brown or brownish black; trochanters chiefly obscure yellow, weakly patterned with dark brown, especially the posterior pair; femora yellowish brown to light brown, with a narrow nearly terminal brown ring, the extreme tip whitened; tibiae pale brown, the tip narrowly darker brown; tarsi brown, the outer segments slightly more yellowish brown; claws very long, the tooth more or less obtuse. Wings with the ground color weakly infuscated, costal border uniformly brownish yellow; cephalic portion of prearcular field darkened, the posterior portion pale; stigma dark brown, the center more or less brightened; veins, especially those beyond cord, more or less seamed with brown, more extensively so at tips; veins basad of cord less distinctly seamed, more evidently so in cell *M* adjoining vein *Cu*; cell *M*₁ and adjoining portions of 1st. *M*₂ and 2nd. *M*₂ more whitened; costal margin of cells *R*₂ and *R*₃ bordered with yellow; cell

2nd. A pale, its tip darkened; veins brown. Venation: *Rs* relatively short, arcuated at origin; *m* longer than the petiole of cell *M*₁.

Basal abdominal tergites darkened medially, yellowed on sides, the proximal portion of tergite two with an oblique brown stripe; outer tergites paler brown, with a median yellow central vitta; eighth segment more uniformly blackened, variegated with yellow; sternites yellow, each with long-oval black central areas that are narrowed at both ends and do not reach the posterior border of segment; basistyle pale, restrictedly darkened at proximal end; dististyle dark brown. Ovipositor with genital shield pale brownish yellow on sides; hypovalvae more blackened at bases; cerci elongate, straight, their tips narrowly obtuse. Male hypopygium (Fig. 1) with the tergite, *9t*, conspicuously notched, the lateral lobes broad and obtuse, with setulae over their entire surface. Dististyle, *d*, with the outer tooth at near two-fifths the length, glabrous, acute at tip; apex of style truncate, its lower or ventral angle more produced than the outer one; outer margin of style basad of tooth with abundant erect setulae.

Holotype, ♂, Gran Sabana, Akuriman, E. Bolívar, October 29, 1940 (Anduze). *Allotype*, ♀, Santa Elena, E. Bolívar, October 19, 1940 (Anduze). *Paratypes*, 1 ♂, 2 of doubtful sex, with the allotype.

The most similar described species is *Brachypremna uniformis* Alexander, 1920, of Amazonian Brazil. This latter differs conspicuously in the coloration of the body and appendages, especially the legs, all femora and tibiae being uniformly brown. The male sex of *uniformis* is still not known to me. The present fly is quite distinct from all other described species in the pattern of the legs, especially the subterminal brown ring on the femora, and in the structure of the male hypopygium.

90. *Nephrotoma medioligula* sp. n.

Allied to *lateropolita*; general coloration yellow, the mesonotum heavily patterned with black, including three praescutal stripes; lateral stripes entirely polished, their anterior ends curved laterad to the border; scutellum darkened; knobs of halteres restrictedly yellow; femora yellow, the tips very narrowly blackened; wings brownish yellow, stigma small, pale brown; cell Sc dark brown; abdominal tergites with series of black median and lateral spots; male hypopygium with the eighth sternite deeply emarginate, with a conspicuous median fleshy lobule projecting some distance beyond the obtusely rounded lateral lobes.

Male.—Length about 12 mm.; wing 10.5 mm.

Frontal prolongation of head light yellow, a little more reddened above; nasus elongate, with conspicuous black setae; palpi with basal segment light brown, the remainder light yellow, the extreme tip of the terminal segment weakly darkened. Antennae with scape and pedicel yellow, flagellum black; segments moderately incised; longest verticils unilaterally distributed, shorter than the segments. Head orange, more yellowed on posterior orbits; vertical tubercle high, entire; occipital brand relatively small and inconspicuous, broadly oval in outline, a little darker than the surrounding ground.

Pronotum broadly yellow medially, blackened on sides; pretergites yellow, behind the pseudosutural foveae with a longitudinal blackened area. Mesonotum with the ground yellow, the praescutum with three polished black stripes, the broad central one with a more reddened median line, both ends of the stripe being uniformly blackened, behind crossing the suture onto the cephalic portion of scutum; anterior end of lateral stripe curved outward to the praescutal border, polished throughout, the mesal border somewhat more reddened, posterior end of lateral stripe becoming confluent with a large blackened area over the lateral portions of the suture and the

cephalic ends of the scutal lobes; remainder of scutal lobes and the scutellum paler brown; central area of scutum darker yellow; parascutella very pale yellow; mediotergite yellow, the central portion more reddened. Pleura and pleurotergite light yellow, variegated with more reddish areas, especially on the anepisternum, ventral sternopleurite, cephalic edge of pteropleurite, and all of pleurotergite excepting the callosity. Halteres dusky, the apex of knob restrictedly light yellow. Legs with coxae reddish yellow; trochanters yellow; femora yellow, the tips very narrowly blackened, the amount equal on all legs; tibiae brown, passing into black; tarsi black; claws (male) toothed. Wings with brownish yellow tinge; stigma small, darker brown but inconspicuous, with a few trichia; cell *C* yellow, cell *Sc* uniformly dark brown, much darker than the stigma; veins dark brown. Venation: *Sc*₁ preserved as a spur; *Rs* about one-third longer than the basal section of *R*₄₊₅, both oblique in position; petiole of cell *M*₁ punctiform; *M*₁₊₂₊₃ unusually long, subequal to *r-m*; *m-cu* some distance before *M*₄.

Abdominal tergites yellow, restrictedly but conspicuously patterned with black, including a series of median subtriangular dashes, interrupted by the basal rings and narrower posterior borders of the segments, the second tergite with two such areas; on lateral borders, tergites two and three with two black spots, the succeeding segments with the single apical darkening; basal sternites yellow; on outer segments the amount of dark color is increased, especially on segments six and seven; sternite eighth with a major blackened area on either side beyond base; remainder of hypopygium brownish yellow. Male hypopygium (Fig. 2) with the ninth tergite badly twisted in the unique type slide, provided with a U-shaped median notch, the entire outer border with numerous blackened spinous points. Outer dististyle *od.* relatively narrow pale, the basal two-thirds more dilated, the apex narrowed to a slender point. Inner dististyle, *id.* with the beak only slightly darkened, obtusely rounded, the ventral portion more blackened; lower beak heavily blackened; dorsal

crest relatively high, entirely glabrous; a conspicuous blackened flange on face of style near base, this irregularly toothed and provided with a few strong setae. Gonapophyses relatively stout, the apex more or less resembling the head and beak of a bird. Eighth sternite, 8s, sheathing, the posterior margin notched; lateral lobes broadly rounded, with long conspicuous reddish setae, these longer and denser toward the midline; from the median notch projects a membranous median lobule that juts some distance beyond the lateral lobes, provided with long conspicuous setae at base, particularly on sides, the remainder of lobule with microscopic setulae and a few longer scattered setae.

Holotype, ♂, Rancho Grande, Aragua, altitude 1.150 meters, August 27, 1944 (Lichy).

The present species is most similar to *Nephrotoma lateropolita* Alexander, of Costa Rica, from which it differs especially in the structure of the male hypopygium, particularly on the inner dististyle and the eighth sternite.

91. *Tipula (Microtipula) detecta* Alexander.

1926. *Tipula detecta* Alexander; Insec. Inscit. Menst., 14: 165-166.

Táchira, Táchira, April 4, 1920 (E. B. & J. H. Williamson; W. H. Ditzler).

92. *Tipula (Microtipula) lichyana* sp. n.

Size medium (wing, male, 13 mm. or less); antennae elongate, flagellar segments bicolored; thorax light reddish brown, the posterior sclerites of notum and the pleura more testaceous yellow; wings grayish subhyaline, with a conspicuous darkened costal border; *r-m* obliterated by approximation or short fusion of veins R_{4+5} and M_{1+2} ; abdomen yellow, with a black subterminal ring; male hypopygium with the caudal border of tergite with a V-shaped notch that is densely fringed with black setae; proctiger not blackened; appendage of ninth sternite a broad pale median plate, the

outer lateral angles of which are produced into narrow, gently curved arms, the entire structure with abundant appressed pale setae.

Male.—Length about 10-12 mm.; wing 11.5-13 mm.; antenna about 5.8-6 mm.

Frontal prolongation of head brownish yellow; nasus long and slender; palpi brownish yellow, the terminal long segment paler yellow. Antennae (male) elongate; basal four segments yellow, succeeding segments bicolored, the basal enlargement blackened, the pedicel brownish yellow, passing into clear yellow at tip of each segment; outer segments more uniformly darkened; flagellar segments elongate, the basal enlargement relatively conspicuous; longest verticils shorter than the segments. Head light reddish brown, with indications of a slightly darker median line.

Thorax almost uniformly light reddish brown, the praescutal stripes not or scarcely indicated; scutellum, postnotum and pleura more testaceous yellow, unpatterned. Halteres infuscated. Legs with coxae testaceous yellow; femora yellow; remainder of legs obscure yellow, the tarsi passing into black. Wings grayish subhyaline, the outer prearcular border and costal margin conspicuously infuscated, the color continued to the wing tip; cell *Sc* more yellowish brown than cell *c*, stigma still darker brown; weaker seams at origin of *Rs*, over anterior cord, outer end of cell *1st. M*₂ and over *m-cu*; cell *R*₁ and extreme base of cell *R*₃ pale; veins brown. Venation: *Rs* scarcely longer than the gently arcuated *m-cu*; *R*₁₊₂ preserved; *r-m* obliterated by the approximation or short fusion of veins *R*₄₊₅ and *M*₁₊₂, the basal section of *R*₄₊₅ very long; *m* about two-thirds to three-fourths as long as the petiole of cell *M*₁; cell *2nd. A* relatively wide.

Abdomen yellow, with a conspicuous black subterminal ring involving tergites six to eight, inclusive, sternites six and seven, with more than the basal half of the eighth segment; remainder of hypopygium yellow. Male hypopygium (Figs. 3, 4) with the ninth tergite, *9t*, transverse, strongly narrowed

outwardly, the apex with a broad V-shaped notch that is abundantly fringed with dense black setae, shortest toward the midline, longer toward the apices of the lobes; setae elsewhere on tergite elongate, reddish brown; proctiger appearing as flattened-compressed pale blades that are densely setuliferous. Dististyles *d*, relatively simple, the outer style a narrow curved arm, its tip blackened; mesal face of style near base with a few elongate setae; inner style broad-based, the apex produced into two arms, the outer a straight rod with its inner margin blackened, the tip acute; inner arm a shorter pale flattened blade that is narrowed to the acute tip. Appendage of ninth sternite, *9s*, appearing as a broad depressed median plate, the outer lateral angles produced into narrow gently curved, arms, their tips narrowly obtuse; median region of plate slightly produced; the entire structure, including the arms, pale with abundant appressed pale setae.

Holotype, ♂, Rancho Grande, Aragua, altitude 1.150 meters, May 1944 (Lichy). *Paratopotypes*, 1 ♂, with type; 1 ♂, August 27, 1944 (Lichy).

I take great pleasure in naming this distinct species for the collector, Mr. René Lichy, distinguished student of the Venezuelan Lepidoptera. The fly, while resembling in its general appearance various other regional members of the subgenus, is entirely distinct in the structure of the male hypopygium, particularly of the tergite, dististyles, and the appendage of the ninth sternite. The most similar Venezuelan species is *Tipula (Microtipula) zonalis* Alexander, which differs in every detail of structure of the hypopygium.

93. *Tipula (Microtipula) tecta* Alexander.

1926. *Tipula tecta* Alexander; Insec. Inscit. Menst., 14: 166-167.

Táchira, Táchira, April 10, 1920 (E. B. & J. H. Williamson; W. H. Ditzler). In its general appearance this fly is very close to *T. (M.) auricularis* Alexander, and it will require a microscopic study of the male hypopygium to settle this rela-

tionship. At this time I am unable to make such a detailed examination of the present fly.

94. *Tipula (Microtipula) zonalis* Alexander.

1926. *Tipula zonalis* Alexander; Insec. Inscit. Menst., 14: 164-165.

Táchira, Táchira, April 4, 1920 (E. B. & J. H. Williamson; W. H. Ditzler).

95. *Tipula (Eumicrotipula) arecuna* Alexander.

1931. *Tipula arecuna* Alexander; Amer. Mus. Novitates 491: 3-4.

Mount Roraima, summit, altitude 8,600 feet, November 1927 (G. H. H. Tate).

96. *Tipula (Eumicrotipula) cristata* sp. n.

Belongs to the *glaphyroptera* group, *unistriata* subgroup; antennae (male) weakly bicolored, of female more strongly so; mesonotum yellow, with a broad, dark brown, median stripe; femora yellow, with a relatively narrow brown subterminal ring; wings pale yellow, handsomely patterned with brownish yellow, dark brown and pale brown, the ground including a pale discal stripe; squama setulose; vein R_{1+2} entire; male hypopygium with the inner dististyle bearing a crest of modified setae on outer margin near apex.

Male.—Length about 15 mm.; wing 16 mm.; antennae about 4.2 mm.

Female.—Length about 18 mm.; wing 18.5 mm.

Frontal prolongation buffy above, darkened on ventral half, nasus long and slender; palpi black. Antennae (male moderately long; scape and pedicel yellow, flagellar segments weakly bicolored, the basal enlargement black, the stems light brown; segments moderately incised, subequal in length to the longest verticils; in female, antennae shorter and strongly bicolored throughout, the flagellar segments yellow with blackened bases. Head buffy, the sides of the posterior vertex strongly darkened; vertical tubercle low.

Pronotum obscure yellow, narrowly dark brown medially, the sides broadly darkened. Menosotum brownish yellow, with a broad, dark brown, central stripe extending the entire length, narrower on the scutum where the area is subtended by small lateral lines over the mesal edges of the lobes, these dashes continued backward onto the scutellum; lateral praescutal stripes and remainder of scutal lobes much less distinctly darkened; a darkened spot on sides of praescutum behind the pseudosutural foveae. Pleura chiefly yellow pollinose, vaguely patterned with pale brown on fore coxae, propleura and the dorsopleural region. Halteres yellow, knobs pale brown with obscure yellow tips. Legs with coxae pale, pollinose; trochanters yellow; femora obscure yellow, with a relatively narrow medium brown subterminal ring; remainder of legs obscure yellow, the tibial tips very narrowly darkened, the outer tarsal segments passing into black; claws simple. Wings with the ground pale yellow, handsomely patterned with darker brownish yellow, pale brown and very restrictedly with dark brown; the latter areas include one over *h* and the arculus; origin of *Rs*; stigma and a confluent seam over the anterior cord; outer end of cell 1st. M_2 ; a small spot in cell *R* adjoining the vein at near one-third the length, and a seam along the distal half of vein *Cu* in the medial field, this latter conspicuously interrupted by a yellow marking a short distance basad of *m-cu*; the pale areas include a conspicuous oblitative mark across cell 1st. M_2 into the bases of cells M_1 to M_3 , slightly involving the adjoining cells *R* to M_4 ; distal half of cell R_5 ; small pale marginal spots in cells M_1 to M_3 , inclusive; cells *Cu*, 1st. *A* and 2nd. *A* with an extensive pale pattern, especially in the basal portions of the Anal cells and for most of the length of cell *Cu*; the remainder of disk, particularly the costal area, outer radial field and posterior border of wing paler brown, interrupted by the yellow ground, as described; veins yellow in the ground areas, more infuscated in the patterned fields. Squama with a few setae. Venation: *Rs* about two and one-half to nearly three times *m-cu*; R_{1+2} entire; petiole of cell M_1 subequal to *m*, cell M_1 correspondingly deep.

Abdomen chiefly yellow, the tergites narrowly trivittate with brown, the median stripe diffuse but nearly entire; sternites more uniformly brownish yellow; subterminal segments in male more extensively darkened; hypopygium brownish yellow. Ovipositor with cerci unusually slender, gently up-curved to the acute tips. Male hypopygium (Fig. 5) with the ninth tergite, *9t*, transverse, its posterior border subtruncate or very slightly emarginate, with a tiny U-shaped median notch that is bordered on either side by a carina that extends onto the dorsal surface; sublateral portions of tergal border gently and broadly emarginate, glabrous or virtually so, the disk back from border with abundant pale setae. Appendage of ninth sternite, *9s*, stout bilobed, the upper portion with normal setae, the lower part more truncate at apex and here provided with long strong reddish bristles. Basistyle, *b*, with the lobe large and pendant, oval, with long yellow setae on its posterior third. Outer dististyle, *od*, elongate, gradually and very slightly widened on distal third. Inner dististyle, *id*, with the beak pale, slender; lower beak heavily blackened and obtusely rounded, directed upwardly; outer portion of dorsal crest opposite the lower beak with a row or crest of about 30 to 35 straight powerful setae, each slightly bulbous at apex and thence extended into a straight hairlike point. Eighth sternite, *8s*, with its posterior border convexly rounded; median lobe entirely pale, with coarse setae on its basal two-thirds.

Holotype, ♂, Rancho Grande, Aragua, altitude 1.150 meters, September 13, 1944 (Lichy). *Allotopotype*, ♀, in copula with type.

This fly is most closely related to *Tipula* (*Eumicrotipula*) *striptella* Alexander, of northern Panama, and to *T. (E.) unistriata* Alexander, of Brazil, especially the former. This differs in its small size and distinctive wing pattern and venation, as the very strongly arcuated vein *M*₃. The male sex of *scriptella* is still unknown but that of *unistriata* has all details of structure quite different from those in the present fly.

Pronotum buffy gray, restrictedly patterned with brown. Mesonotal praescutum buffy gray, with four ill-defined brownish gray stripes, the intermediate pair more reddish brown, divided by a capillary brown median vitta that is faint and more or less interrupted; lateral borders of intermediate stripes and the narrow lateral pair more grayish; interspaces with very conspicuous dark brown setigerous punctures; posterior sclerites of notum grayish, the scutal lobes patterned with darker brownish gray; scutellum with paired brown spots at base, parascutella dark; mediotergite buffy brown, with paired circular brown areas on posterior portion. Pleura and pleurotergite buffy yellow, virtually unpatterned except for a small brown spot on cephalic border of mesepisternum. Halteres brownish black, the base of stem narrowly yellow. Legs with coxae pale yellow, whitish pruinose; trochanters yellow; femora obscure yellow, the tips blackened, subequal in amount on all legs; tibiae brown, the tips very narrowly darker; tarsi black; claws (male) simple. Wings with a highly diversified pattern of pale brown, darker brown and whitish subhyaline; darkest areas include the stigma and a costal series of major areas in the radial field, placed at base, at one-third the length, over origin of *Rs* and over the fork of the latter, the last being confluent with the darker brown stigma; wing-tip in outer radial field heavily darkened; *m-cu* and adjacent portions of *Cu* seamed with dark brown, with a further isolated area at near two-thirds the length of *Cu* in cell *M*; posterior two-thirds of wing with the ground paler brown; the whitish pattern includes a conspicuous oblique post-stigmal mark from *C* across cell 1st. *M*₂ into the bases of cells *M*₃ and *M*₄, disconnected from restricted brightenings in the outer fifth of cell *R*₅ and the basal third of cell *M*₁; basad of cord, the white color forms a zigzag pattern that is almost as extensive as the brown ground, particularly in the basal fourth of wing, in all cells from *R* to 2nd. *A*, inclusive; costal field brown; cell *Sc* slightly variegated by darker extensions from the radial field; veins dark brown, a little paler in the

whitened areas, the tip of R_{1+2} whitened but preserved. Venation: R_s a little less than three times $m-cu$; petiole of cell M_1 shorter than m .

97. *Tipula (Eumicrotipula) duidae* Alexander.

1931. *Tipula duidae* Alexander; Amer. Mus. Novitates 491: 4-5.

Mount Duida, January 11, 1929 (G. H. H. Tate).

98. *Tipula (Eumicrotipula) marmoripennis* Rondani.

1850. *Tipula marmoripennis* Rondani; Nuovi Annali delle Scienze Nat. e Rendicatio Acad. Sci. Bologna (3) 2: 194-195.

The type was from an unknown locality in Venezuela. From the description the fly could pertain either to the *glaphyoptera* or the *monilifera* group of the subgenus. Since the type is a female it may prove to be unrecognizable.

99. *Tipula (Eumicrotipula) infinita* sp. n.

Belongs to the *monilifera* group; antennae (male) very long, exceeding four-fifths the length of body; flagellar segments black, the basal swellings abrupt; wings with a highly diversified pattern of pale brown, darker brown and whitish subhyaline, the last including a broad poststigmal band; male hypopygium having the caudal border of ninth tergite with a narrow median notch; inner dististyle without a comb of modified setae; gonapophyses appearing as flattened pale plates, the lower apical angle produced into a slender curved point; lobe of eighth sternite relatively long, about two and one-half times as long as its width across the base.

Male.—Length about 15 mm.; wing 17.5 mm.; antenna about 13 mm.

Frontal prolongation of head yellow dorsally and ventrally, more blackened on sides; nasus elongate; palpi with first segment blackened, its tip paler; remainder of palpi broken. Antennae (male) very long, exceeding four-fifths the length

of body; scape and pedicel light yellow; first flagellar segment light brown, remaining segments black, a little exceeding their longest verticils; in addition to the verticils, the entire stem of segments with very long erect white setae; basal swellings of segments abrupt. Head above light brownish gray, with a narrow dark median vitta and more diffuse markings on sides of posterior vertex and posterior orbits.

Abdominal tergites yellowish brown to pale brown, the incisures narrowly paler; a sublateral dark stripe more nearly continuous on the basal segments on outer tergites broken into basal spots; basal sternites light yellow; subterminal segments and most of hypopygium dark brown, the apex of tergite broadly pale. Male hypopygium (Fig. 6) having the pale posterior portion of the ninth tergite, *9t*, narrowed, the entire caudal border broadly emarginate, the median region with a secondary deep U-shaped notch; adjacent angles produced into slightly developed obtuse blades, the outer lateral angles more broadly obtuse; entire margin of tergite glabrous. Ninth sternite, *9s*, with a small, weakly bilobed appendage, the entire structure with only about a score of long setae, more concentrated into a pencil on the ventral portion. Basistyle, *b*, entire, provided with a pencil or group of long setae on a very low elevation. Outer dististyle, *od*, pale, expanded outwardly, fringed with very long setae. Inner dististyle, *id*, long and narrow; beak relatively long and slender, pale, the tip narrowly obtuse; lower beak blackened; outer portion of dorsal crest slightly elevated and with coarse transverse ridges; setae of remainder of crest erect, pale unmodified, not forming a comb as in certain allied forms. Gonapophysis, *g*, appearing as a flattened pale blade, the lower apical angle produce into a slender curved point, its tip subacute. Eighth sternite, *8s*, with the median lobe relatively long, the length about two and one-half times the width across base, gradually narrowed to the obtuse tip; entire surface of lobe with long yellow setae, those at tip more than one-third the length of the entire lobe.

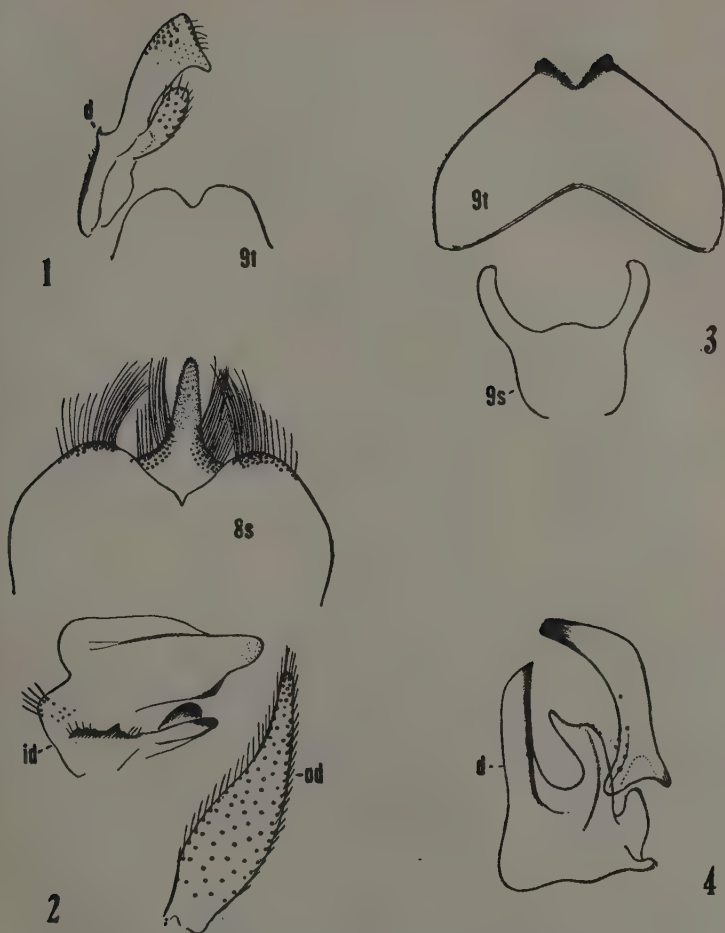
Holotype, Rancho Grande, Aragua, April 1944 (Lichy).

This fly is most similar to *Tipula* (*Eumicrotipula*) *armillata* Alexander and *T. (E.) pantherina* Alexander, having similarly very elongate antennae in the male sex. It differs from all such species in the structure of the male hypopygium, particularly the tergite, inner dististyle, gonapophyses and eighth sternite.

100. *Tipula* (*Eumicrotipula*) *pantherina* Alexander.

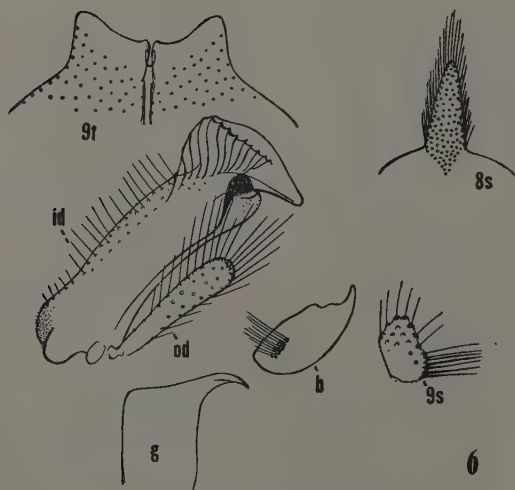
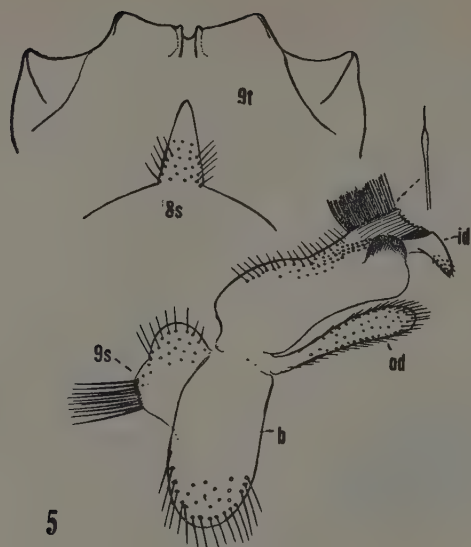
1941. *Tipula pantherina* Alexander; Ann. Ent. Soc. America, 34: 242.

The type, a unique male, was from Venezuela, without further data; included in the "Old Collection" of the Vienna Museum and presumably captured either by Carl Gotthelf Kaden 1857 or by Alexander Lindig (1864). Later taken in Venezuelan Andes (Mérida, June 1938, collected by Anduze) and at El Junquito, D. F. along the trail to Colonia Tovar km. 17, altitude 1,670 meters. April 3, 1938, collected by Vivas Berthier.



EXPLANATION OF FIGURES

- Fig. 1.—*Brachypremna subuniformis* sp. n.; male hypopygium.
 Fig. 2.—*Nephrotoma medioligula* sp. n.; male hypopygium.
 Fig. 3, 4.—*Tipula* (*Microtipula*) *lichyana* sp. n.; male hypopygium.



EXPLANATION OF FIGURES

Fig. 5.—*Tipula* (*Eumicrotipula*) *cristata* sp. n.; male hypopygium.

Fig. 6.—*Tipula* (*Eumicrotipula*) *infinita* sp. n.; male hypopygium.

(Symbols: *b*, basistyle; *d*, disistyle; *g*, gonapophysis; *id*, inner dististyle; *od*, outer dististyle; *s*, sternite; *t*, tergite).

12
THE PSAMMOCHARIDAE (SPIDER - WASPS)
OF NORTHERN SOUTH AMERICA

by

Nathan Banks

PART I

The author proposes to publish synoptic tables for the species known to me from northern South America. Since more material will be available to me later, I publish descriptions of the new species now on hand.

SUBFAMILY

PEPSINAE

Pepsis. Several hundred species have been described from South America, the majority based on one sex. Lucas (1895) made an arrangement based on color. This is not only unsatisfactory to use, but far from natural. And Lucas himself was aware of it faults; he gives the same figure for the male genitalia of a black-winged species (*grossa*) and for a red-winged species (*nephele*). He notes the very close resemblance of *peruana* and *tolteca*, one wholly black, other with very pale wings.

Several groups based on structure or similarity of male genitalia can be distinguished, and I propose to consider these as subgenera; with further study doubtless other groups can be separated from the typical group as represented by *Pepsis ruficornis* L.

Gigantopepsis, made by Lucas for *Pepsis gigantea* Lucas, includes several other species black in color, also the

rufous *toppini* and Central American *optima*. At present I would include the *aurifex* sections, since the females have the last joint of hind tarsi strongly curved, several stout bristles before the tooth, which however is not so far out as in *gigantea* and its close allies. The males have the hind legs very strongly ciliated. Some of the *aurifex* section may not go in the subgenus. I have not seen all the species.

Nannopepsis, type *Pepsis pruinosa* Lucas, for species having the last ventral segment slightly concave, and the tip of abdomen with fine, rather tufted hair, instead of the sloping bristles. *P. consors* Brethes and several new forms belong to this subgenus.

Cirripepsis, type *Pepsis planifrons* Lucas, which have the hair at tip of abdomen tufted and nearly erect as in Nannopepsis, but the last ventral segment is plainly convex. The legs are usually hairy, as well as the body. *P. auri-macula* Mocs. and several new species are included, and possibly *P. purpureus* Smith, which is said to have a tuft of hair at tip of body.

Trichopepsis, type *Pepsis limbata* Guer. for those particularly hairy, with long and rather dense hair on the lower lobes of the pronotum, as well as on base of abdomen, often on femora, and especially dense on the propodeum. *P. peruana*, *P. tolteca*, *P. xanthocera*, *andicola*, *quilonensis*, *circe*, and *polita* belong to this subgenus.

Stenopepsis, type *Pepsis hymenaea* Mocs., for species with a more or less slender body, in which there is no definite groove or depression behind the ocelli, though there may be a lateral groove at side of each posterior ocellus. The head, seen from side, shows the ocelli at top or almost there and the vertex not at all elevated behind the ocelli. Several species with the more slender bodies go here, and possibly the subgenus should be restricted to them, but for the present I would include many with a broader abdomen in which the vertex is typical, *P. egregia* and allies, *P. parthenope*, *P. amyntas*, *P. purpureipes*, possibly all in the *festiva* sections, also *P. strenua*.

Dinopepsis, type *Pepsis grossa* Fabr., for those in which the male has an elongate subgenital plate covered with long hairs; *grossa* and *theresia* occur in Northern South America.

Further details and a synoptic table will be published in treating the species known to me from all South America.

Pepsis (Stenopepsis) ierensis sp. nov.

Female, black throughout, more or less blue, especially on abdomen above, in fore wings, a little beyond the closed cells, is a faint paler band and the tip generally is paler than the even black of rest of wing, the scar in base of first discoidal cell is white and very noticeable. Clypeus hairy, chiefly below, but some above; hairy on middle of front and longer hairs each side near eyes and on vertex behind ocelli; pronotum with moderately short hairs, none in front, lower pleura and sides of propodeum with long hair, and some long hair on propodeum above; abdomen hairy at tip above and below, little on venter.

Clypeus a little concave below, lower part with large bristles; face short, narrowed above, from in front the vertex is nearly straight across, the ocelli not quite at the top, laterals fully one and a half times as far from eyes as from each other; antennae moderately long, second plus third joints about equal to vertex-width. Pronotum almost vertical in front and faintly concave, shoulders rather prominent, arcuate behind; mesonotum arched; propodeum rather broad, from side the outline is nearly evenly curved, but posterior part more sloping, no distinct mid-ridge, but rather denser hair at turn, ridged all over above, basal part with about twelve, on posterior slope hardly interrupted in middle, stigmal tubercle small, lateral a little larger, but hardly higher; mesosternal tubercle low, not visible from above. Abdomen not especially slender, much as in *egregria*, higher than in *mystica* and *gracilis*; widest at middle of second segment. Legs fairly slender, front tibia almost as long as width of head, very hairy along both inner and outer sides as in *gracilis* and *mystica*; hind tibia above with a row of pointed

triangular teeth, the bristles plainly higher, but spines little higher, inner spur not one-third of basitarsus; last joint of hind tarsus scarcely curved, tooth before middle of claw, one stout bristle before it.

In fore wings the marginal cell is about two-thirds its length from wing-tip, its base is almost truncate, about the same as in *gracilis*; the other venation, second and third submarginal cells and the second recurrent about as in *gracilis*.

Length of fore wings 24 to 25 mm.

From northwest part of Trinidad (Ballou, Urich, and Fennah). In structure very similar to *gracilis*, but color of wings and antennae different. Type M. C. Z. no. 26687.

Pepsis (Stenopepsis) cybele sp. nov.

Body and legs black, body rather deep blue, also on venter; antennae black, last six joints pale rufous; wings dark brown, a pale yellowish area in base of fore wing, occupying base of first submarginal, and base of first discoidal, less distinct over tip of basal cell and back over base of second submedian and apical fourth of first submedian cells, and about apical half of anal cell, edges not sharp, but merging into the brown; in hind wing occupying nearly half of anal cell and obliquely upward to costal margin, also very pale yellowish.

Clypeus with few hairs near base, more on lower part, margin angulate in middle. Head thin (from side) antennal base scarcely projecting, and but little width back of lower eye, much as in *hymenaea*; from in front the vertex is nearly straight across connecting tops of eyes, and ocelli at top, lateral ocelli plainly a little nearer each other than to eyes, no groove back of them, few small hairs on middle of front, much longer near eyes; antennae short, second plus third joints equal vertex-width. Pronotum almost vertical in front, but curved somewhat above, and with short hair, shoulders not especially prominent.

Propodeum moderately hairy, rather evenly ridged on basal part, mid-ridge rather low, but broad, posterior slope shorter, with broken ridges, stigmal and lateral tubercles both very small; mesosternal tubercle quite sharp and slightly visible from above; pleura moderately hairy. Abdomen about as stout as in *mystica*, not as slender as in *flavilis*, very hairy and bristly near tip above and below, some long hairs on venter; legs slender, femora little enlarged near base, front tibia very bristly and about equal to width of head; hind tibiae with a row of triangular teeth, well separated, and hardly as high as the spines, inner spur not one-third of basitarsus, last joint of hind tarsus plainly curved, tooth before middle of claw, one stout and two slender bristles before it.

In fore wings the marginal cell is about two-thirds its length before wing-tip, base plainly oblique, about as broad as second submarginal cell, latter two and one-half times as long below as broad, base strongly oblique, tip lightly evenly curved; third submarginal cell hardly two-thirds of second below, more than two-thirds above, outer side at first sloping than curved in, second recurrent vein (scarcely sinuous) at end of basal two-fifth; in hind wing the anal vein ends nearer to forking of cubitus than to margin.

Length of fore wing 19 mm.

One female from La Esperanza, Dept. Cundinamarca, Colombia, (Roba; Bequaert coll.). Type M. C. Z. no. 26688.

Resembles *P. flavilis*, but pale spots, especially in hind wing more separated from base; third submarginal cell shorter.

Pepsis (Stenopepsis) venosa sp. nov.

Black; abdomen polished above, with a blue lustre, antennae and legs black; wings pale yellowish rufous, fading out at tip to pale yellowish, almost hyaline, the extreme margin barely darker, the veins dark rufous and very distinct, stigma rufous.

Clypeus broadly and rather deeply concave on lower margin, long hairs on lower part; face narrowed above, median line very distinct and at bottom of a deep furrow; a broad ridge starts from each side of ocelli and extends obliquely outward down between eyes and antennae; lateral ocelli much nearer to each other than to eyes; antennae moderately short, second plus third antennal joints almost equal vertexwidth; from side the head is very thin, almost as thin as in *elongata*.

Pronotum arcuate behind, shoulders rather strongly elevated, few hairs at sides; propodeum with some long hairs on sides, none above, a very low mid-ridge, the two parts of propodeum not sharply separated, basal part rather closely and evenly ridged, posterior part also ridged, but somewhat broken in middle, stigmal tubercles scarcely noticeable, lateral tubercles rounded, not prominent.

Abdomen nearly fusiform, rather thicker than *elongata*, not depressed; femora near base thicker than in *elongata*, hind tibia with very low teeth, scarcely visible, with much longer spines and bristles in the row, inner spur hardly one-third of basitarsus, last tarsal joint barely curved, the large tooth near middle of claw, one stout spine before it.

In fore wings the venation scarcely differs from *elongata*, the third submarginal cell as long as in that species.

Length of fore wing 25 mm.

Type from Cayenne (Le Moul), paratype Moengo, Boven, Cottica River, Surinam, 16 May (Cornell). Type M. C. Z. no. 26689.

Pepsis equestris var, *lycaon* var nov.

Body black, only on abdomen is there a trace of bluish; antennae and legs black; wings black, with whitish hyaline tips, and in fore wing a sub-basal band, this band does not reach the costal margin only to subcosta and its outer margin is not definite, it is faintly yellowish, rather than silvery; the

hyaline tip of fore wings occupies fully two thirds of apical space, and starts at tip of marginal cell and extends around on hind border into apical cell; the hyaline tip on hind wings is also broader than *equestris*. The venation is similar except that third submarginal cell is shorter, and this is mostly below, the lower margin not one-half longer than upper side, the outer side does not slope, but curves evenly above and below; and the second recurrent vein ends near middle of lower side of cell. Teeth on hind tibiae fully as short as in *equestris*, and inner spur also very short; propodeum about as in typical form.

Length of fore wing 24 to 25 mm.

Two females from Northwest part of Trinidad (Ballou, Urich, and Fennah). The typical form is fairly common on Trinidad, and I presume when the male of this form is known it will be a separate species. Type M. C. Z. no. 26697.

Pepsis astarte sp. nov.

♂ Black, with bluish iridescence, abdomen with a narrow band of golden scales at tip of the first segment, not quite reaching across; legs black, femora bluish; antennae rufous, the first and second joints black; in bright sunlight one can see patches of golden in several places, one each side at upper corner of clypeus, one above each antennae, the anterior end of the collar, a patch each side on the posterior slope of the propodeum, another spot on pleura of prothorax just in front of the end of lower lobe of pronotum, some sutures on pleura also golden; some specimens do not show all of these spots, and in many views they do not show at all.

Both wings yellow-brown as in *P. aurifex*, no distinct pale tip; the basal part somewhat paler than apical part.

Clypeus about twice as broad as long, concave below, with mostly short hair; vertex but little elevated, the structure of head as in *P. aurifex*, propodeum also like that species except the mid ridge is more pointed; basal segment slender

at base as allies; hind legs strongly compressed, the crest on hind tibia and basitarsus higher than in *P. aurifex*; no ventral hair modifications, last few segments with some short erect hair; subgenital plate very broad (fully as broad as *aurifex*) at tip it is notched in middle; and covered with short erect hair except on each side near base where it is polished.

Venation much as *P. aurifex*, the third submarginal cell a little longer and outer side more strongly angulate in middle.

Length of fore wing 35 mm.

From Vista Nieve, Santa Marta, Colombia, 5000 ft., 9, 10 February (G. Salt). Type M. C. Z., no. 26206. This is closely related to *P. aurifex*, but differs strikingly in coloration. Possibly it might be the male of *P. asteria* Mocs. The hind legs will place this in the subgenus, *Gigantopepsis*.

SUBFAMILY CRYPTOCHILINAE

Priocnemioides praestans sp. nov.

Greatly resembling *P. mammillatus*, but the wings deep black; the body a brighter blue, the head more or less greenish fifth joint of antennae at least partly black, others before black, beyond yellowish, but last joint dark at extreme tip; tip of fore wings as plainly white as in *mammillatus*.

The head (From above) is broader than in *mammillatus*, but the eyes not as large nor as convex; the clypeal margin, and face similar to *mammillatus*, the antennae, however, have the third joint much shorter about as long or barely longer than vertex-width; lateral ocelli are nearer to each other than to eyes, but not as much as in *mammillatus*. The propodeum (seen from side) is not evenly curved as in the named species, but the basal part and posterior slope distinctly separated, the slope nearly straight from side view, from behind flattened; surface fully as coarsely ridged; legs and tibial armature similar; abdomen of the same shape, the

swellings on second ventral segment not as prominent, more flattened, broader, and a little closer together than in *mammillatus*. The venation does not differ from *mammillatus*, except in minor details.

Length of fore wings 22 to 27 mm.

Several specimens from Northwest part of Trinidad (Urich, Ballou, Fennah).

The male is nearly as large as the female, the abdomen broad as female, not small and slender as in *mammillatus* and *peruvianus*. The lower edge is very deeply, sharply and narrowly incised in middle. The subgenital plate is broad and rounded, fringed with long incurving bristles, a low median ridge or line not reaching tip. The preceding segment with a large area of dense, very short, erect hair, the sides with longer hair. The scutellum is more strongly elevated than in the male of *mammillatus*.

Length of fore wings 23 mm.

One from St. Augustine, Trinidad, 1 June (N. A. Weber).
Type M. C. Z. no. 26658.

Priocnemioides urichi sp. nov.

♀ Body and legs black, with a slight bluish irridescence on thorax and abdomen; legs black; antennae rufous, except that the first, second, and extreme base of the third joints are black; fore wings rufous to yellowish, but base black more than one-half way to basal vein, the outer edge irregular, hind wings more yellowish but the base black as far out as in the fore wings; veins yellowish.

Clypeus broad, somewhat elevated at base, plainly not as long in middle as the space from anterior ocellus to base of antennae, lower margin concave in middle, surface with some hairs near base as well as below; face below as broad as high, but little narrowed above, vertex width very much longer than second plus third antennal joints, a distinct median groove; ocelli in a low triangle, the laterals about

one and one-third times as far from eyes as from each other; pronotum angulate behind; back of head and front coxae very hairy, elsewhere less hairy.

Propodeum (from side) shows a nearly even curve above, striae on basal part fine and near base very faint, posterior slope with strong striae above but toward tip much finer. Abdomen moderately slender, basal segment fully as long as broad behind, rather stiff bristles on last two segments above, beneath with few hairs except on last segment, the posterior part of each segment well punctate, second with a curved ridge, higher on sides, but not elevated in a tooth. Legs moderately slender, front femora a few hairs above, hind tibia has a row of fairly large teeth above and a row of spines scarcely longer, inner spur more than one-third of basitarsus.

In fore wings the marginal cell is long, not nearly as broad as the second submarginal cell, latter not quite twice as long below as broad, both ends oblique, the basal one the more so, receiving the first recurrent vein nearly one-third way from tip; third submarginal but little longer below than second, and but little shorter above than the second submarginal, outer side curved and oblique, receiving the second recurrent (bent above middle) plainly before middle. In hind wings the anal vein ends a little beyond the cubital fork.

Length of fore wing 15 mm.

One from the northwestern part of Trinidad (Ballou, Ulrich, and Fennah). Type M. C. Z. no. 26661.

Calicurgus rufigaster sp. nov.

Head, antennae, thorax, propodeum and coxae black abdomen and legs rufous, wings hyaline, fore wings with a faint brown band or spot on basal vein, beyond a broad brown band occupying most of marginal, second and third submarginal and upper outer part of third discoidal cell; stigma and veins pale brown; hind spurs brownish, others paler. The black parts of body more or less sericeous, noticeable on lower face and sides of propodeum above.

Clypeus three times as broad as long, truncate below, face plainly higher than broad, narrowed a little above; ocellar triangle rather broad, the laterals almost as near eyes as to each other; second plus third antennal joints about equal vertexwidth, front with much short pubescence, little hair; pronotum short above, broadly arcuate behind, front part vertical; propodeum about as long as broad, median groove distinct in front, from side faintly curved at base, rest sloping but nearly straight; abdomen broad at base, not much broadened in middle, last segment somewhat compressed, with dense, stiff hair on apical part above, few fine hairs on venter. Legs rather short, hind femora not nearly reaching tip of abdomen, mid tibiae with rows of stiff bristles above and on outer side, hind tibiae with a row of long sloping teeth, and also many short stout spines, inner spur of hind tibiae nearly two-thirds of basitarsus.

In the fore wings the marginal cell nearly three-fourths its length from wing-tip, apical part pointed, nearly as broad as second submarginal cell, latter about rhomboidal, a little longer below than broad, scarcely narrowed above, receiving the first recurrent vein at apical third; third submarginal cell hardly longer below than second, narrowed two-thirds above, outer side strongly oblique, but little curved, receiving the second recurrent vein (curved in middle) near middle; basal vein ends scarcely before transverse; in hind wings the anal vein ends plainly before forking of cubitus, outer cross-vein scarcely beyond middle of radial sector.

Length of fore wings 7.5 mm.

One female from Vista Nieve, San Lorenzo Mt., Colombia, 19 December (J. Bequaert). Type M. C. Z. no. 26647.

Calicurgus huitaca sp. nov.

Head, thorax, propodeum black, lower edge of clypeus yellowish, hind margin of propodeum yellowish, sides of propodeum obscurely dull rufous, first three segments of abdomen yellowish, the third with a large black spot above. Legs, except front coxae, yellowish, the last joint of each

tarsus deep black, base of front femora darkened; fore wings yellowish, marginal cell brownish, and extending behind making a faint cloud, stigma dark brown, veins yellowish brown.

Clypeus more than two and one-half times as broad as long, lower edge truncate; face higher than broad, broader below than in *C. quitus*, vertex nearly three fifths of lower face, lateral ocelli much nearer each other than of eyes, antennae long and slender, fourth joint about equal to vertex-width, lower orbits with some golden pubescence, front and vertex with sparse fine hair. Pronotum broadly arcuate behind, mostly vertical front; a trace of golden pubescence on pleura and coxae. Propodeum broader at base than long, from side sloping but hardly curved, with rather short hair above and on sides, just before tip is a band of yellowish or whitish pubescence.

Abdomen fusiform, base fairly broad, tip with numerous hairs, some stiff, on venter longer. Legs quite long, the hind femora just reaching tip of abdomen, all femora with minute fine hairs below, mid tibiae above with four or five bristles on outer half, hind tibiae with a row of very long low teeth, and longer stout bristles, inner spur more than one-half of basitarsus, pulvillus large, divided as in *C. quitus*.

In fore wings the marginal cell about three-fourths its length from wing-tip, third and fourth abscissae in a scarcely bent line, cell not as broad as second submarginal cell; stigma long and like that of *C. quitus*; second submarginal cell fully as broad as long below, slightly narrowed above, receiving first recurrent beyond middle; third submarginal cell about twice as long below and a little shorter above than the second, narrowed more than two-thirds above, outer side curved, receiving the second recurrent (bent in middle) at basal third. Basal vein in an even curve, ends barely before transverse, in hind wings anal vein ends plainly before forking of cubitus, and outer cross-vein a little beyond middle of radial sector.

Length of fore wings 10 mm.

One female from "Colombia, S. A. 11, III, 12" (Cornell Univ. Coll.). Closely related to *C. quitus*, but separated by details of coloration and minor structures.

Amerocnemis gen. nov.

I base this genus on one female and four males from South America, and one from Central America. The female is very near *Priocnemis* except for the much larger and differently shaped clypeus. The males also have the large clypeus; in the fore wings the medius stops shortly beyond the cell. All are rather pale in body, at least on pleura and venter, more or less dark-banded on abdomen above and striped on mesonotum. The males are slender, and greatly resemble species of *Batazonus*; several have the black marks above base of antennae. Their structure, however, is typically *Cryptochilini*.

The clypeus is broad and fairly long, fully twice as broad as long, upper edge convex with an indentation each side, lateral margins oblique and curved, tip truncate. The female has an inner row of distinct teeth on hind tibia, and on basal part an inner row of smaller teeth, each tooth with a stout spine, in males the tibiae have only weak bristles. Venation much like *Priocnemis*, basal ends before transverse, and in hind wings the anal usually ends just beyond forking of cubitus. The face is broad and rather short, so that the clypeus is nearly one-half length of face.

Type *A. bequaerti* n. sp.

Pompilus pampeanus Holmb., *Agenia decepta* Sm., and *P. ichneumoniformis* Smith may belong to this genus. None were in the Smith collection that Fox studied; I cannot identify any of the four S. American species before me.

Amerocnemis bequaerti sp. nov.

Body pale yellowish; above antennae is a dark stripe each side reaching up to ocelli and there is a narrow black line from eye to eye, occiput with black around the aperture;

antennae mostly pale yellowish, but last six joints dark brown; pronotum with dark mark across just above the groove; mesonotum with a broad median black mark, not reaching hind border, each side a broad black stripe from wing base forward and connected to each other behind, thus leaving a pale U mark in middle; scutellum with a black spot in middle of base, black behind, post scutellum yellowish across front part; propodeum with a large black streak each side, leaving only a narrow pale median line, the dark sides narrower behind; pleura entirely pale; abdomen yellowish, base of first segment black; legs pale yellowish, pulvilli dark. Wings mostly hyaline, fore wings with a pale brown costal streak beyond basal vein and covering marginal, first, second, and most of third submarginal cells, and beyond to wing-tip. Clypeus nearly two and one-half times as broad as long, convex above and indented each side, below truncate in middle, the sides oblique, surface with bristles and fine hairs; face about as broad below as high, narrowed somewhat above; second plus third antennal joints nearly equal vertex-width; ocelli in a rather small triangle, laterals more than twice as far from eyes as from each other, some long hairs on vertex, dense behind; pronotum moderately short above, angulate behind, with an indented line in middle. Propodeum broader than long, from side evenly but slightly curved, with much long hair above; abdomen as broad as thorax, basal segment hairy above, apical segment hairy, even on third, quite long hair below but sparser. Legs with many hairs and bristles, hind femora nearly reach tip of abdomen, hind tibiae with two rows of short, rather stumpy teeth, each with spine, inner spur fully one-half basitarsus; mid tibiae with numerous spines above and bristles all over, except inner side.

In fore wings marginal cell long, not two-thirds of length from wing-tip, little broader than second submarginal cell, latter more than twice as long below as broad, narrowed one-third above, receiving first recurrent vein near apical third; third submarginal cell nearly one-half longer below than second, narrowed over one-third above, outer vein strongly sloping, bent near lower end, receiving second recurrent vein

(slightly sinuous) before end of basal third; basal vein ends much before transverse; in hind wings anal vein ends beyond forking of cubitus, outer cross-vein a little beyond middle of radial sector.

Length of fore wing 13 mm.

One female from Restrepo, Dept. Meta, Colombia (J. Bequaert). Type M. C. Z. no. 26631.

Priocnessus prominens sp. nov.

♂ Head, thorax, propodeum, and coxae black; antennae brown, basal joint yellowish beneath; tips of mandibles black; clypeus yellow, but a large triangular black spot in middle; face with a yellowish streak in each orbit, broad below, but only a point near vertex; head with yellowish hairs and golden pubescence; pronotum testaceous on hind border; front coxae below and others with large spot beneath yellowish; the golden pubescence is distinct on various parts, most of pronotum and pleura, tip of propodeum, and near scutellum. Abdomen, except basal black of first segment, is rufous and with yellowish hair on first segment above, denser on two segments at tip and more sparsely on venter. The legs beyond coxae are rufous, mid and hind tarsi black, except basal joint. Wings rather evenly fulvous, the tips a little embrowned, veins and stigma yellowish.

Clypeus a little more than twice as broad as long, in middle below projecting a little, and each side for a short distance concave, elevated and shaped much as *P. neotropicalis* of Central America. Face below about as broad as high, somewhat narrowed above, ocelli in narrow triangle, laterals nearer each other than to eyes; pronotum angulate behind, rounded above but soon vertical in front, above with dense rather short hair, similar hair on pleura, but longer on propodeum, latter fully as broad as long, from side evenly curved.

Abdomen fusiform, but not very broad on third segment, subgenital plate rather broad, broadly rounded, tip fringed with a row of nearly equally short spines.

Legs moderately long, hind femora almost reach tip of abdomen, front basitarsus, with spines above as well as elsewhere, hind tibiae with a few stout spines and some shorter bristles, inner spur of hind tibiae nearly one-half of basitarsus; claws of male cleft, tooth very stout; hind trochanter with apical tooth. In fore wings the marginal cell hardly two-thirds length from wing-tip, fully as broad as second submarginal cell; latter one-half longer below than broad, narrowed one-third above, receiving first recurrent plainly beyond middle; third submarginal cell fully one-half longer below and about one-third longer above than second, narrowed about one-third above, outer vein strongly oblique and curved near end, receiving the second recurrent vein (nearly straight) a little beyond basal third; basal vein ends much before transverse; in hind wings anal vein ends at forking of cubitus, outer cross-vein much more than one-half way out on radial sector.

Length of fore wing 13 mm.

One male from Vista Nieve, San Lorenzo Mt., Colombia, 16 December (J. Bequaert). Type M. C. Z. no. 26650.

Nannochilus colombianus sp. nov.

Black; front and mid tibiae and tarsi pale brownish, other tarsi brown; antennae dark, basal joint with a pale spot below; most of body covered with a fine white pile, silvery on clypeus and lower face; wings hyaline, fore wings with a large pale brown cloud over tip of wing, covering marginal, second and third submarginals and upper outer corner of third discoidal cells.

Clypeus short and broad, truncate below, not extending laterally under eyes; face little narrowed above, a faint median line, second plus third antennal joints about equal to vertex-width, fourth joint as long as third; lateral ocelli a little nearer eyes than to each other, hind border of pronotum broadly arcuate; propodeum (from side) high at base and evenly curved and strongly sloping to tip, no median groove; abdomen tapering to narrow base, first segment

scarcely as long above as broad at tip, last ventral segment with some very fine and short pale hairs; legs moderately slender, hind tibiae without spines above, inner spur not quite one-half of basitarsus.

In fore wings the marginal cell is almost its length from wingtip, hardly angulate on lower side, slightly broader than second submarginal cell; latter about one and one-half times as long below as broad, base somewhat curved and sloping, lower side slightly angulate in middle where it receives the first recurrent vein; third submarginal cell hardly as long as high, shorter than second, outer side bent in middle; receiving the second recurrent vein (slightly curved) at middle; basal vein interstitial with transverse, lower section scarcely convex toward wing-base; in hind wings the anal vein ends much before forking of cubitus; outer cross-vein plainly nearer base of radial sector than to tip.

Length of fore wings 6 mm.

Male is similar, but basal and second joints of antennae wholly yellow, and front tibiae and tarsi also yellow; inner spur of hind tibiae about three-fourths of basitarsi; the abdomen a little more slender than female, but not compressed; face, coxae, pleura, and prododeum more silvery than in female; the dark at tip of wing is not as distinct as in the female, and the second recurrent ends near the end of the third submarginal cell, the latter being somewhat shorter than in female.

Length of fore wing 6 mm.

From Buenaventura, Colombia, 8 May (Cornell Univ.)
Foximia subgenus nov.

For the smaller species of *Priochilus* I make a subgenus with *Pompilus scrupulus* Fox as genotype. These forms have very little hair, in females none on propodeum nor on front coxae; their bodies are mostly opaque, a few have a minute pile, silvery or golden in a few places; all have two bands on fore wings.

Priochilus (Foximia) aurifrons sp. nov.

Black; face and clypeus with fine golden pubescence as in *P. diversus*; propodeum also golden; coxae and pleura silvery; first segment of abdomen faintly silvery in certain views, and also band across base of second and third segments; fore wings with the usual two broad bands, more than their width apart, hyaline between them; somewhat whitish just beyond second band, tip narrowly dusky. Structure very similar to *diversus* and *scrupulus*. Hind tibia with two rows of spines above, about six to eight in each row, no indication of teeth, inner spur not nearly one-half of basitarsus; no hairs on front coxae, only two or three each side on front near eyes; clypeus truncate below; ocelli and antennae as in allies. In fore wings the second submarginal cell is only a little narrowed above, base curved; second recurrent strongly bent, almost sinuous bellow, ending not one-fourth the way out on third submarginal cell, latter more than its lower length from wing-margin; in hind wings the anal vein ends at forking of cubitus.

Length of fore wings 10 mm.

One from Venezuela (171) R. Lichy coll. Type M. C. Z. no. 26665.

Priochilus (Foximia) clarus sp. nov.

Male, body black; abdomen with white band at base of second segment, and a less broad one at base of third segment, tip of abdomen white above. Wings hyaline, in fore wings a brown cloud over much of marginal and second and third submarginal cells, and a little along second recurrent vein, the transverse vein also margined with brown. Clypeus white, a small triangular black mark in middle, wholly covered with silvery white pubescence; antennae black, basal joint a little paler below; hind border of pronotum white; front tarsi, all spurs, and palpi white.

Clypeus broad, truncate below; face a little broader at vertex, no median line on front, some white pubescence each side of antennal base; ocelli in a moderately narrow triangle,

laterals plainly nearer each other than to eyes; antennae rather long, second plus third plus fourth joints much longer than vertex-width; pronotum angulate behind, in front (from side) sloping; propodeum short, flat, and sloping a little behind, no groove nor hairs above.

Abdomen compressed, scarcely longer than thorax; the subgenital plate long, triangular, tip scarcely one-third of basal width, with median ridge below and clothed with short hair, from side also triangular; sixth ventral segment deeply excised in middle. Legs slender, hind tibia with a row of long spines each side above and a row of smaller ones in middle, or at least spine-pits; inner spur about two-thirds of basitarsus.

In fore wings the marginal cell is long, about two-thirds its length from wing-tip, the last abscissa fully two-thirds of costal length of cell, a trifle concave behind, its width a little more than second submarginal cell, the latter almost as broad at tip as long below, a little shorter above, the base and tip sloping and nearly parallel, receiving the first recurrent vein beyond the middle; third submarginal cell much longer below than second, but not longer above, outer side slightly curved, receiving second recurrent vein (much curved) at basal third; in hind wings the anal vein ends at forking of cubitus.

Length of fore wings 7 mm.

One male from Muzo, Dept. Boyaca, Colombia, 20 to 30 June (J. Bequaert). Type M. C. Z. 26701.

SUBFAMILY

PSAMMOCHARINAE

Batazonus inornatus sp. nov.

Female - Pale yellowish to rufous nearly throughout, hardly a trace of the usual black above antennae; latter pale, base of flagellum above and last seven joints dark; mesonotum with very faint brown stripe each side; abdomen has the apical part of first, second, and third segments brownish, and

the others largely dull brownish; bases of hind tarsal joints narrowly dark; fore wings with costal half pale yellowish brown, apical part with less of yellow.

Structure in general like allies; third antennal joint about equal vertex-width, fourth joint nearly two-thirds of third; combspines slender and short, middle one of second joint about one-half of joint; inner spur of hind tibia fully one-half of basitarsus; propodeum with very fine hair, shorter than in *polistiformis*; venation much like *polistiformis*, second recurrent ending at middle of third cell, outer side of third cell not quite as long as lower side.

Male - Very similar to female in coloration except that there are two black usually nearly parallel lines above antennae to lateral ocelli and there connected to the ocular band; the dark on mesonotum shows more plainly as a narrow stripe each side; the last three segments of abdomen are mostly dull brownish, the others brownish on apical part; the thick antennae are yellowish brown, and evenly crenulate below; wings as in female, but second recurrent vein usually ends beyond middle of third cell; inner spur of hind tibia about four-fifths of basitarsus.

Length of fore wings ♀ 10 mm., male 6 to 9 mm.

From Rio Frio, Magdalena, Colombia 13 to 26 july (G. Salt). Type M. C. Z. no. 26603.

Notiochares coxalis sp. nov.

Female. Body, legs, and antennae black, a blue or green iridescence on much of body above, not strongly blue as in *amethystina*; wings black, with blue iridescence; lower corners of face with whitish pile; a white line above aperture of head, another across collar, a streak of white pubescence back of eyes, white hair back of eyes and on propleura, also a band of white pubescence across tip of propodeum; mid and hind coxae are silvery white beneath, the hind coxae also above. Very little hair on head or thorax, and that short, none on propodeum, the tip of abdomen above and below with fairly numerous bristles, a few hairs above on fifth segment,

and venter also showing a few short hairs on each segment; front coxae with only about a dozen long hairs. Clypeus emarginate, about as in *amethystina*, face more narrow than that species, and plainly narrowed above; antennae slender, third joint longer than vertex-width; lateral ocelli as near to eyes as to each other; pronotum angulate behind, sloping in front, with a few short hairs; propodeum with indication of median line, posterior slope flattened, almost concave; abdomen about as in allied species, but a little more slender; legs slender, comb-spines not quite as long as in other species, four on basitarsus; hind tibia with two rows of rather short spines, inner spur about one-half of basitarsus; spines beneath last joint of hind tarsus very small, and the tooth on claw rather small.

In fore wings the marginal cell is almost its length from wingtip, last abscissa not quite half of costal length of cell, broader than the second submarginal cell, latter fully twice as long below as broad, narrowed one-third above by the curved base, receiving first recurrent just before apical third; third submarginal cell plainly shorter below than second, narrowed about one-half above by the straight and sloping outer side, no wider than second cell, receiving the second recurrent vein (little curved) near middle; in hind wings the anal vein ends a trifle beyond forking of cubitus.

Length of fore wings 15 mm.

One female from Kartabo, British Guiana (Wheeler), marked beneath label, No. 449.

The male is similar to the female and to male of *amethystina*, but there is the white hair and pubescence on back of head, across collar and on propleura, and the white line at tip of propodeum. All the coxae are silvery beneath; abdomen shaped much as in *amethystina* but the subgenital plate has the mid carina distinct only at base, and the carina each side is shorter, straight and more nearly parallel to each other than in *amethystina*.

Length of fore wings 13 to 15 mm.

Several specimens from Kartabo, British Guiana, July-August (Wheeler), one is marked on underside of the label Sept. 4, N° 754.

Type M. C. Z. N° 26.700.

Psammochares caloderes sp. nov.

♀ Black, with silvery pubescence over lower face, most of clypeus, upper half of propodeum, basal band across second and third segments, much of fifth and sixth segments also silvery to cinereous; mesopleura and coxae also silvery; wings blackish, pale in third discoidal cell and behind, veins black; spurs yellowish brown. Clypeus about three times as broad as long, below concave in middle, surface mostly smooth, face higher than broad and plainly narrowed above, median furrow indistinct, scattered hairs on vertex and front, vertex-width much shorter than the third antennal joint; ocelli in a broad triangle, hind ones about as near eyes as to each other; pronotum deeply angulate behind, shoulders with a few hairs; propodeum rather flattened behind, moderately hairy above, pleura with only minute short hairs. Basal segment of abdomen not hairy, last segment above with many stiff and traight bristles, and some long hairs, and on preceding segment, few hairs on venter.

Legs rather short; three comb-spines on front basitarsus, almost as long as width of joint, mid and hind tibiae with long spines, some longer than width of joint, inner spur about two-thirds basitarsus, claws with a sharp tooth.

In fore wings the marginal cell is about its length from wingtip, width less than that of submarginals, first and last abciissae about equal; second submarginal cell plainly longer below than high, basal side very oblique, so top is only one-third of bottom, receiving the first recurrent at last fourth; third submarginal much longer below, and twice as long above as the second, outer side straight and oblique, receiving the second recurrent (bent above middle) at middle; exten-

sion of medius not one-third the length of third cell, basal vein interstitial with the transverse; in hind wings the anal vein ends a little beyond forking of cubitus.

Length of fore wing 11.5 mm.

From Restrepo, Dept. Meta, Colombia, 500 m. (Bequaert). Type M. C. Z. Nº 26.229.

Two males from Muzo, Dept. Boyacá, Colombia, may be the male of *caloderes*. They are black, the clypeus, lower face tip of propodeum, base of first abdominal segment silvery; the collar and back of head is also white as in the female *caloderes*.

Psammochares alcatara sp. nov.

♀ Black; abdomen above shining, fore wings blackish brown, hind wings paler, spurs yellowish brown.

Clypeus about three times as broad as long, lower margin concave along middle; face plainly higher than broad, plainly narrowed above, with scattered hairs in middle of front, and some on vertex; vertex-width not as long as third antennal joint, hind ocelli as near to eyes as to each other; pronotum weakly angulate behind, with few very short hairs on shoulders, pleura bare; propodeum with faint median line, hairy above, nearly flat in middle of posterior slope.

Abdomen with some hair on basal sides of first segment, tip with many straight bristles, last ventrite with long hairs below and on sides, a few hairs near middle of other ventral segments. Front basitarsus with short comb-spines, none reach next one; not thickened; mid and hind tibiae quite heavily spined above, inner spur about one-half of basitarsus, claws with a small median tooth.

Fore wings have marginal cell hardly its length from wing-tip, about as broad as submarginal cells; second submarginal much longer below than broad, hardly one-half as long above, base much sloping, below middle strongly bent, receiving the first recurrent vein at or before apical third;

third submarginal cell as long or longer below than second, about one-half as long above, outer vein strongly sloping, but nearly straight, receiving the second recurrent (nearly straight) near middle; extension of medius about one half of the third cell; basal vein interstitial with the transverse; in hind wings the anal ends a little beyond the forking of cubitus.

Length of fore-wing 11 to 12 mm.

From Kartabo, British Guiana, March and June, and Paramaribo, Surinam, 9 May (Cornell Exped.), and La Cumbre, Colombia, 6,600 ft. (Parish). Type M. C. Z. Nº 26.228.

Anoplius bolivari sp. nov.

♀ Deep black, with some bluish iridescence, wings pale brown, a broad darker apical band beyond the cells, veins black, spurs black. Clypeus about three times as broad as long, lower margin barely concave, surface with a few bristles; face higher than broad, scarcely narrowed above, with scattered moderately long hair; vertex-width not longer than second plus third antennal joints; pronotum angulate behind, sparsely hairy; propodeum very short, moderately hairy; pleura with short, indistinct hair; basal part of first abdominal segment above with some hair; all ventral segments with few hairs, last segment above with stout bristles and hairs sloping toward tip, also long hairs on sides; legs moderately short, all femora with a few very fine and short hairs above, no comb-spine at middle of second tarsal joint, front coxae with very long hair, hind tibiae with quite long spines above, about two-thirds width of joint, inner spur reaching to middle of basitarsus, claws toothed.

Fore wings with marginal cell its length from wing-tip, not as broad as submarginals; second submarginal cell broader than long below, basal vein sloping to narrow cell, receiving the first recurrent about one-fourth before tip; third submarginal much longer below, narrowed to one-half above, outer side curved, receiving the second recurrent in middle,

extension of medius not one-third of cell; basal vein ends a trifle before transverse; in hind wing the anal vein ends at forking of cubitus.

Length of fore wing 11 mm.

From Vista Nieve, Santa Marta, Colombia, 5,000 ft. (G. Salt), and Vista Nieve, San Lorenzo Mt., Colombia, 20 December (J. Bequaert). Type M. C. Z. N° 26.234.

SUBFAMILY

NOTOCYPHINAE

Notocyphus nessus sp. nov.

Male. Body, legs, and antennae black, clypeus white on sides and above and extending up each orbit half way to vertex, scape of antennae white below; third segment of abdomen with a white streak each side near base, and last segment white above. Wings hyaline to a little smoky, gradually becoming darker towards tip. Clypeus triangular, about one and one-half times as broad as long; labrum scarcely longer, truncate at tip antennae very short, third joint not one and one-half times as long as second, shorter than the fourth which is fully twice as long as broad; front and vertex with scattered short hair; hind ocelli hardly nearer each other than to eyes; pronotum very short, little longer above than thickness of antennal joint. Propodeum a little broader in front than long, sloping in an almost even curve to tip; basal segment of abdomen broader behind than long; inner spur of hind tibiae about one-half of basitarsus.

Fore wings with marginal cell fully as broad as the submarginals; second submarginal one and one-third times as long below as broad, base not very oblique, tip much less so, receiving the first recurrent vein near middle; third submarginal cell a little longer below than second, apical vein sloping and strongly bent, narrowing the cell above to about one-third, receiving the second recurrent near middle; basal vein

ends at the transverse, lower section not sloping and bulging only a little toward base; in hind wing anal ends barely beyond forking of cubitus.

Length of fore wing 6 mm.

From Muzo, Dept. Boyacá, 900 m., Colombia, June (J. Bequaert). Type M. C. Z. Nº 26.591.

Notocyphus thetis sp. nov.

Female. Black, abdomen wholly red except black at extreme base; legs and antennae wholly black, spurs yellowish brown. Fore wings smoky, darker in marginal cell and over basal vein; hind wings dull smoky.

Body rather slender and compressed; head small, clypeus short, nearly three times as broad as long, truncate below, labrum longer than clypeus, tip a little concave; clypeus and face with gray pubescence, vertex and front with a few moderately long hairs; hind ocelli about as near to eyes as to each other; antennae short, third joint not four times as long as broad at tip, plainly shorter than vertex width; pronotum long, but not quite as long as in *N. saevissima*, arcuate behind; propodeum long, with excavate tip as in *N. saevissima*, but the lateral angles are more pointed than in that species, no hair on propodeum; abdomen rather long, first segment as long as broad at tip, a few fine hairs on last segment above, many below.

Legs moderately short, mid and hind tibiae with very short spines, inner spur of hind tibia not one-half of basitarsus, hind femora with many distinct spine-pits on under side as in *N. saevissima*. In fore wings the marginal cell quite long, about as broad as the submarginals; second submarginal cell fully one and one-half times as long below as broad, base plainly oblique, tip scarcely so, receiving the first recurrent only about one-third way from base; third submarginal cell scarcely longer below than second, above much shorter than second, outer side strongly bent below middle; receiving the

second recurrent vein before middle; basal vein ends much before transverse; in hind wings the anal vein ends at forking of cubitus.

Length of fore wing 8.5 mm.

From Kwakoe Gron, Surinam, 11 June (Cornell Univ. Lot 760, sub. 92). Type at Cornell Univ.

Notocyphus lucasi sp. nov.

Male. Black, clypeus, labrum, and usual orbital marks yellowish white, a black spot in middle of clypeus; hind border of pronotum, spot on tip of mesonotum, on scutellum, and one on postcutellum ivory white; tip of propodeum each side pale; abdomen above with white band on basal part of third segment, and last segment white; antennae dark, pale on scape below; front coxae white in front, front femora and part of tibia black, rest of tibia and the tarsus yellowish; mid and hind femora and tibiae mostly yellowish, but black at ends, tarsi black. Wings nearly hyaline, barely, smoky, slightly darker at tip; veins and stigma brown.

Clypeus about two and one-half times as broad as long; labrum longer, tapering to a truncate tip; third antennal joint about twice as long as second, a trifle shorter than fourth; vertex very broad, equal to second, third, fourth, and fifth joints united; lateral ocelli plainly nearer to eyes than to each other; front and vertex with moderately short but quite dense hair, hair on pronotum so fine scarcely noticeable; pronotum very short in middle above; propodeum about as broad as long, sloping to tip; basal segment of abdomen a little broader behind than long; legs rather short, no spine-pits under hind femora, inner spur of hind tibia more than half of basitarsus.

In fore wings marginal cell as broad as submarginals; second submarginal cell one and one-half times as long below as broad, base sloping, tip scarcely so, receiving first recurrent plainly before middle; third submarginal cell a little longer

below than second, only little more than one-fourth as long above, outer side much sloping and then roundedly bent, receiving the second recurrent a little before middle; basal vein ends scarcely before transverse, lower section curved toward base, not sloping; in hind wings anal vein ends a little beyond forking of cubitus.

Length of fore wings, 8 mm.

One from Port of Spain, Trinidad, 12 July (Cornell Univ. Exped.). Type at Cornell Univ.

Notocyphus adoletis sp. nov.

Male. Black; clypeus white also a broad orbital stripe reaching half way to vertex; antennae black, basal joint below white; pronotum bordered with white, and a white spot on each lower side, a white spot in middle of scutellum. Abdomen somewhat rufous on first and part of second segment; third segment with a whitish streak each side in front; last segment pale above. Front legs ferrugineous, the coxae, however, black, mid and hind legs with coxae and femora ferrugineous, the mid tibia mostly so, beyond the leg is black; spurs black, except those on front legs which are pale.

Fore wings almost hyaline, a little smoky, a narrow dark streak over basal and transverse veins, and a dark brown cloud over marginal cell, third submarginal, part of second submarginal, and upper outer corner of third discoidal cell, the outer border scarcely darker than rest of wing, veins brown; hind wings nearly hyaline.

Clypeus a little more than twice as broad as long, the labrum a little longer, much tapering to the rounded tip; antennae very short, third joint not as long as first, third plus fourth not equal vertex width; ocelli in a close triangle, the hind ones about as near other as to eyes; pronotum very short in middle, arcuate behind, propodeum about as long as broad, sloping to tip, hind corners silvery in certain views; abdomen hardly longer than thorax plus propodeum, rather slender,

first segment about as long as broad behind. Legs moderately slender, inner spur of hind tibia fully two-thirds of basitarsus. In fore wings the marginal cell is much broader than submarginals; second submarginal cell only a little longer below than broad, base strongly oblique, tip slightly oblique, receiving the first recurrent vein before middle; third submarginal nearly one-half longer below than second, apical vein at first oblique then bent, but not strongly so, receiving the second recurrent vein (a little curved) near middle; basal vein interstitial with transverse, lower section of basal vein bowed toward base of wing; in hind wings anal vein ends a little beyond forking of cubitus.

Length of fore wings 7 mm.

One from Muzo, Dept. Boyacá, Colombia, 900 m. (Bequaert). Type M. C. Z. Nº 26.589.

Notocyphus rufigaster sp. nov.

Male. Head and thorax black, abdomen reddish; clypeus and labrum whitish extending upward along orbits, at antennae broad, but coming to a point a little below ocelli, the posterior orbits narrowly pale; hind border of pronotum whitish and a yellowish spot near hind border of mesonotum, another on middle of scutellum, and a third on middle of metanotum; a silvery white spot at posterior border of propodeum and the silvery extends outward and forward.

Abdomen usually wholly rufous, but sometimes showing a yellowish spot each side at base of third segment, and in these the segments behind are rather dark, last segment yellowish above; hind tibiae and femora rufous, hind tarsi black; tibiae and sometimes femora in front and mid legs partly or wholly rufous, front tarsi yellowish, mid tarsi brownish.

Parts of pleura and coxae usually silvery, front coxae strongly so, and a little on femora. Wings hyaline, but usually somewhat yellowish, veins brown.

Clypeus nearly triangular, labrum scarcely longer, truncate below; antennae short and thick; third joint not twice as long as broad, shorter than the fourth; front and vertex with short hair; hind ocelli about as close to eyes as to each other; pronotum short, arcuate behind; propodeum about as long as broad, evenly sloping to tip; basal segment of abdomen broader behind than long, hardly, if at all compressed behind, but on venter more compressed toward tip; inner spur of hind tibia almost two-thirds of basitarsus.

In fore wings the marginal cell is about as broad as submarginals; second submarginal not one and one-half times as long below as broad, base slopes to narrow cell to one-half above, apex but little oblique, receiving the first recurrent at middle; third submarginal cell longer below than second, outer side sloping and then bent almost angularly, top hardly one third of bottom, receiving the second recurrent (strongly bent) near middle; basal vein ends close to transverse, the lower section bulging a little toward base; in hind wing the anal vein at forking of cubitus.

Length of fore wings 7 to 8 mm.

Many males from Río Frío, Magdalena, Colombia, 10 July to 15 October (G. Salt).

Type M. C. Z. Nº 26.588.

SUBFAMILY

CERATOPALINAE

Ceratopales isolde sp. nov.

In the group of *abdominalis*, black head and thorax, reddish abdomen and legs. Clypeus, labrum, usual face mark, hind border of pronotum and basal humps, spot on scutellum, postscutellum, and narrow hind corners of propodeum, white; antennae (♀) with flagellum whole black, under side of first and second joints pale; the clypeus and labrum have each a large black spot. No pale marks on the rufous abdomen;

hind coxae rufous, others black, the first are white in front, and mid coxae on side; mesopleura with dense silvery tomentum. Wings rather yellowish in many cells, but hyaline toward base, stigma yellowish, veins nearly black. Lateral ocelli about one and one-fourth diameter from the larger anterior ocellus, and plainly nearer each other than to eyes.

Middle of face rather heavily punctate, with a narrow median groove; vertex scarcely punctate; pronotum smooth, polished on sides, much less punctate than in *abdominalis*; mesonotum with a broad longitudinal depression each side, and here the pits are large and close together, on middle area few punctures, and slightly carinate behind; near wing-base there is another longitudinal streak nearly smooth, and almost carinate, the border next to tegulae is punctate, scutellum elevated, sparsely punctate.

The legs are much like *abdominalis*, but the inner spur of mid tibia is fully one-half of basitarsus; venation as in *abdominalis*.

Length of fore wing 10 mm.

A female from Muzo, Dept. Boyacá, Colombia, July (Bequaert). Type M. C. Z. Nº 26.594.

A female from Panama, 1 August (Cornell coll.) is almost certainly the same species, and agrees generally and in sculpture, but the basal segment of abdomen has a transverse yellowish spot each side.

Separated from *C. abdominalis* by densely punctate middle face, sculpture of mesonotum, spot on clypeus, much longer inner spur of mid tibia, darker wings.

Ceratopales bolivari sp. nov.

Belonging to the *abdominalis* group, black head and thorax, reddish abdomen and legs. Clypeus, labrum and usual face mark white or yellowish; antennae black, yellowish below, except for last few joints which are deep black; pronotum

behind, basal humps, small spot on scutellum, post-scutellum, posterior corners of propodeum white. Abdomen an even reddish throughout, no black spot at base of first segment, apical margin of fifth and sixth segments with whitish band; legs rufous, hind tarsi dark brown; coxae of first legs white in front, some white on front femora at tip and the front tibiae on outer side; mid legs with basitarsi white. Face rather finely punctate in middle, pronotum rather densely and finely punctate, mesonotum almost carinate in middle, not depressed each side, but a smooth line near tegulae, between these lines and the median carina the punctures are large and numerous, the part in front evenly, densely punctate; mesopleura and apical part of propodeum with silvery tomentum. The mid tarsi are much as in *brethesi*, the second joint scarcely longer than broad, the third and fourth broader than long, the fifth not quite as much broadened as in *brethesi*.

Venation much as usual in the group, but the third submarginal cell has the upper side hardly one-third of the lower side, shorter than in *abdominalis*, the second recurrent scarcely at all curved.

Length of fore wing 8.5 mm.

A male from Puerto Colombia, Colombia. (Bequaert). Type, M. C. Z. N° 26.595.

SUBFAMILY

PSEUDAGENINAE

Pseudagenia magdalena sp. nov.

Black, all femora yellowish, front femora dark at base, front tibiae yellowish beneath. Wings distinctly yellowish, veins and stigma yellowish to brown. Clypeus and lower face with white hair, as also on pleura and propodeum.

Clypeus triangular, tip blunt, rounded, each side faintly concave, much as in *P. smithi*; lateral ocelli a little nearer to each other than to eyes; second plus third antennal joints ful-

ly equal vertex-width; propodeum punctate, and with long white hair, a rather broad, shallow median groove; hind tibiae above with numerous short spines, much like allied species, inner spur equal one-half basitarsus; abdomen with hair above and on sides of basal segment, hair at tip of abdomen extremely short, not one-half the length of that in *smithi*.

Male similar, but smaller and more slender, black, with white hair and pubescence on clypeus, face, less on pleura and pronotum behind, quite dense on propodeum, and also on abdomen; mandibles yellowish, tip a little darker; under side of basal antennal joint pale; a large, almost white spot on sixth dorsal segment; legs with femora yellowish, tibiae more or less yellowish beneath, spurs nearly white; wings faintly yellowish.

Clypeus very short about three times as broad as long, lower margin nearly truncate, barely rounded, margin overhung by hair; antennae quite slender, basal joint of antennae more slender than in *smithi*; propodeum punctate and with the middle furrow, venation as in female.

Length of fore wings ♀ 9 mm., ♂ 6.5 mm.

Male and female from Río Frio, Magdalena, Colombia, 10 July (G. Salt); also another 1 February. Type M. C. Z. Nº 26.664.

Pseudagenia robusta sp. nov.

Black; the thorax and propodeum mostly entirely blue, bluish on face and coxae, and hind femora are apt to be bluish; abdomen black, shining; tarsi dark brown; wings smoky hyaline, sometimes fairly dark, veins and stigma black. Very hairy on head, pronotum, pleura, coxae, scutellum and propodeum; fairly long hair on basal, ventral and apical segments of abdomen; femora with minute hairs below.

Clypeus not twice as broad as long, subtriangular; face a little higher than broad, a whitish pubescence on lower part, vertex little narrower than base, second plus third an-

tennal joints about equal to vertex-width; lateral ocelli fully twice as close to each other as to eyes; pronotum angulate behind; propodeum broader than long, with median furrow, from side evenly curved, above finely striate and all but basal part densely pitted. Basal segment of abdomen with a rather long petiole, last segment quite broad, not at all compressed, pygidium broad and shining. Legs slender, hind femora reach tip of abdomen, mid tibiae with a few small spine-pits above, hind tibiae with the row very faint, inner spur about one-half of basitarsus.

In fore wing the marginal cell about one-half its length from wing-tip, as broad as the second submarginal cell, latter about two and one-half times as long below as broad, narrowed about one-third above, receiving the first recurrent vein in middle; third submarginal cell plainly longer below than second, scarcely longer above, outer side strongly sloping and bent near end, receiving the second recurrent (slightly curved) at basal third; basal vein ends before transverse, moderately sloping; in hind wings the anal vein ends before forking of cubitus, outer cross-vein nearer to tip of radial than to base.

Length of fore wings 10.5 mm.

Females from Vista Nieve, San Lorenzo Mt., Colombia, 16 December (J. Beguaert), and Baños, Tungurahua, Ecuador, 1.600 to 1.900 m. (MacIntyre). Type M. C. Z. Nº 26.622.

Pseudagenia wheeleri sp. nov.

Head, thorax, and coxae bluish, iridescent, abdomen above with violet reflection, in some views head and thorax are greenish; antennae black; front femora rufous in front, black behind, tibiae yellowish, tarsi brown, mid femora rufous in front except at base, behind black except near tip, tibiae black, tarsi brown, hind femora rufous but tip black, tibiae and tarsi black; wings hyaline, faintly fumose, veins brown, stigma black.

Clypeus fully twice as broad as long, somewhat rounded below, surface convex and below hairy, face much higher than broad, broadest in middle, as wide at vertex as at base, median line faint, only a few fine short hairs on front, second plus third antennal joints not nearly equal vertex-width, much white hair behind eyes; pronotum angulate behind; few short hairs on shoulders; propodeum about as broad at base as long, from side evenly curved to tip, above with fine white hairs, and at each side near tip a patch of white pubescence; abdomen at tip slightly hairy, pygidium shining reddish brown, most segments finely sericeous on sides and below, scarcely above.

Legs rather short, hind femora far from reaching tip of abdomen, mid tibiae with minute spines above, on hind tibiae they are scarcely visible, inner spur almost one-half of basitarsus.

In fore wings the marginal cell is more than one-half its length from wing-tip, much broader than second submarginal cell which is rather narrow and lower side more than twice its breadth receiving the first recurrent vein before middle; third submarginal cell one-half longer below than second, top about one-fourth shorter, outer side strongly oblique, receiving the second recurrent before end of first third; basal vein ends before the transverse, fairly oblique; in hind wings the anal vein ends much before the forking of cubitus, outer cross-vein oblique, about half way out on the radial sector.

Length of fore wing 7 mm.

One female from Kartabo, British Guiana, July-August (W. M. Wheeler). Type M. C. Z. N° 26.621.

Pseudagenia lorenzana sp. nov.

Body black, antennae, palpi, and legs yellowish, coxae, trochanters, and last two or three tarsal joints black, spurs brown. Wings hyaline, stigma yellowish, veins brown; body more or less with a fine white or gray pubescence, nowhere very prominent nor silvery. Clypeus more than twice as broad as long, lower edge convex, hairy; face higher than broad,

vertex rather broader than base; second plus third antennal joints hardly two-thirds of vertex-width; lateral ocelli about one and one-half times as far from eyes as from each other; pronotum slightly angulate behind; propodeum nearly as broad at base as long, from side evenly curved, no median groove, surface above not striate, but pitted except near base, the white hairs fairly long and abundant; pleura hairy; basal segment of abdomen with moderately long petiole, last segment with fine, mostly short, hair above, longer below and short, on venter; pygidium elongate, shining brown, legs rather slender, hind femora almost reach tip of abdomen, hind tibiae with scarcely visible pits, no noticeable bristles, inner spur about one-half of basitarsus.

In fore wings the marginal cell is about one-half its length from wing-tip, plainly broader than second submarginal cell, latter over twice as long below as broad, base curved, receiving the first recurrent vein at middle; third submarginal cell plainly longer than second, outer side oblique, receiving the second recurrent (slightly curved) at basal third, basal vein ends only a little before transverse; in hind wings the anal vein ends before forking of cubitus; outer cross-vein a little nearer to tip of radial sector than to base.

Length of fore wing 6 mm.

One female from Vista Nieve, San Lorenzo Mt., Colombia, 22 December (Bequaert). Type M. C. Z. N° 26.616.

Ageniella bequaerti sp. nov.

Head black, clypeus and lower face silvery; antennae black, under side of basal joint, and joints seven to ten inclusive yellowish; thorax, propodeum, and abdomen steel blue, abdomen shining above, femora also bluish, rest of legs black, front and hind coxae silvery, and a silvery patch at each outer corner of the propodeum. Wings hyaline, veins dark, fore wing with band over basal vein, a brown band occupying basal half of marginal cell, over part of second and third submarginal cells, and upper outer corner of third discoidal cell, tip of wing faintly dark.

Clypeus short and very broad, lateral angles sharp and under middle of eyes, lower margin lightly evenly convex, face a little narrowed above, no median groove; second plus third antennal joint not nearly equal to vertex-width; ocelli in a close triangle, laterals a little nearer to each other than to eyes; pronotum broadly arcuate behind; propodeum a little narrowed behind, as long as broad in front, very low and scarcely curved, no median groove; basal segment of abdomen slender, petiole long like in *A. amoena*, tip of abdomen scarcely hairy, legs slender; mid and hind tibiae with minute bristles above, inner spur not quite one-half of basitarsus.

In fore wings the marginal cell is almost its length from wing-tip, lower side angulate at end of second submarginal cell and here it is one and a half times as broad as the second submarginal, latter a little longer than broad, base curved and sloping, receiving the first recurrent vein at apical third; third submarginal fully twice as long below as second, at tip about as broad as marginal cell, outer side oblique, narrowed about one-third above, receiving the second recurrent (bent below middle) near basal third; basal vein a trifle before transverse, lower section evenly, lightly curved and somewhat sloping; in hind wings the anal vein ends a little before forking of cubitus, outer cross-vein nearer to base than to tip of radial sector.

Length fore wing 7 mm.

One female from Muzo, Dept.. Boyacá, Colombia, 900 m., June (Bequaert). Type M. C. Z. N° 26.607.

Agenniella rufula sp. nov.

Entire body, legs, antennae, rufous throughout; wings hyaline, scarcely yellowish, a brown band over basal vein, and from marginal cell behind into third discoidal cell there is a broader brown band; spurs dark brown.

Clypeus broad as in *amoena* and allies, the lateral corners under eyes, lower margin evenly convex, face slightly broader in middle than vertex, but little less narrow than base; no frontal groove; second plus third joint of antennae

much shorter than vertex-width; ocelli in a close triangle, laterals nearer each other than to eyes; pronotum broadly excavate behind; propodeum (from side) evenly convex, rather short, no median groove; abdomen with moderately long petiole as in *amoena*, first segment as long as broad behind, tip of abdomen with a few hairs and a few near margin of ventral segments. Legs moderately long, inner spur of hind tibia nearly one-half of basitarsus; spines above on mid and hind tibiae are very minute, scarcely noticeable.

In the fore wings the marginal cell is about two-thirds its length from wing-tip, broader than second submarginal cell, latter one and one-fourth longer below than broad, rhomboidal, receiving the first recurrent vein at apical third; third submarginal cell almost twice as long below as second outer side strongly oblique, upper side not one-half of lower, receiving the second recurrent vein much before middle; basal vein ends a little before transverse, in hind wings the anal ends plainly before forking of cubitus.

Length of fore wing 7.5 mm.

One female, Minca to Cincinnati, San Lorenzo Mt., Colombia, 29 December (Bequaert). Type M. C. Z. Nº 26.606.

Ageniella caloptera sp. nov.

♀ Body black, propodeum, scutellum, postscutellum, metanotum, meso and metapleura rufous; abdomen metallic blue in certain views, femora also rather iridescent bluish; antennae black, joints seven to eleven inclusive yellow, basal joint rufous beneath; wings clear pale yellow out to stigmal brown band, beyond band hyaline, the tip brown; the brown band occupies the basal half or less of marginal cell and extends back over second and part of third submarginal cells and into upper outer corner of third discoidal cell; veins yellow except in brown areas; hind wings are a paler yellowish, nearly hyaline before the brown tip.

Clypeus broad, upper margin a nearly even curve, the lateral ends sharp and project well under eyes, the lower

edge also nearly an even curve. Face narrowing above, but vertex much broader than length of second plus third antennal joints; ocelli in a narrow triangle, laterals fully twice as near each other as to eyes; pronotum angulate behind; propodeum (from side) very low, basal part almost flat, and longer than the sloping posterior part, no median groove; abdomen moderately slender, very plainly petiolate, basal segment longer than broad, last few segments with fine hairs, most ventral segments with a few hairs; mid and hind tibiae above with minute spine-like hairs, hind tibia with a long groove on outer upper side, inner spur one half of basitarsus.

In fore wing the marginal cell is about three-fourths its length from wing-tip, much broader than the second submarginal cell, latter little longer below than broad, base more oblique than apex, receiving the first recurrent vein at apical third; third submarginal cell twice as long below as second, not half so long above, outer side very oblique, receiving the second recurrent vein plainly before middle; basal vein ends before transverse, lower section bulging toward base and scarcely sloping; in hind wings the anal vein ends a trifle before forking of cubitus, outer cross-vein as near tip as to base of radial sector.

Length of fore wing 10 mm.

From Vista Nieve, San Lorenzo Mt., Colombia, 16, 22 December (J. Bequaert). Type M. C. Z. Nº 26.605.

The description of *Agenia amabilis* Taschenberg agrees with this in some points but differs on others, notably in antennae.

Priophanes moesta sp. nov.

Body deep black, legs and antennae also, wings slightly fumose, fore wings with a broad rather irregular pale brown band over basal vein, marginal cell pale brown, and a pale brown streak through middle of second and third submarginal cells, a shade in apical part of third discoidal cell, tip pale brown; coxae below rather strongly sericeous.

Clypeus about two and one-half times as broad as long, front margin slightly concave in middle, fine hairs on surface and a few bristles near from margin; face much higher than broad, a little narrowed above, frontal line distinct, rather short hair on front, two long ones each side near eye; antennae quite long, third joint itself equal to vertex-width; lateral ocelli fully twice as far from eyes as from each other; pronotum short above where it is angulate in middle, in front curved and sloping; pleura hairy; propodeum longer than broad, from side basal two-thirds lightly curved, behind a straight slope with long hair; petiole of abdomen short, abdomen slender, elongate, very hairy behind, above and on sides of three segments, the last segment above densely hairy, many rufous, below mostly white hairs and fewer. Legs moderately long, hind femora reach tip of abdomen; mid tibiae with two rows of short stout spines above; hind tibiae with low and sloping teeth, a short spine at each tooth, but few fine hairs; inner spur about two-fifths of basitarsus.

In fore wings the marginal cell long, about two-thirds its length from wing-tip, not as broad as second submarginal cell; latter rhomboidal, end about as long as lower side, receiving first recurrent vein much beyond middle; third submarginal cell about one-half longer below, but shorter above, than the second, narrowed more than one-third above, outer side curved, near tip of cell it is about twice as broad as marginal cell, receiving the second recurrent vein (straight) at basal third; stigma much more than width in marginal cell and behind rounded; basal vein ends considerably before transverse; in hind wings the anal vein ends plainly before forking of cubitus, outer cross-vein sloping, slightly before middle of radial sector.

Length of fore wing 11 mm.

One female from La Cumbre, San Lorenzo Mt., Colombia, 5 December (J. Bequaert). Type M. C. Z. Nº 26.644.

Priophanes ornata sp. nov.

Head, thorax, propodeum black, with pale yellow or creamy white spots as follows: clypeus, a broad streak on each orbit not touching clypeus, a streak behind eye, an elongate spot on each side of hind margin of pronotum, and the lower margin broadly and almost touching the side spot of hind margin, a median spot behind on mesonotum, a small spot on scutellum, a larger one on post scutellum, one on outer side of front coxae, one on lower mesopleura, on upper metapleura, on outer hind part of propodeum with a slender extension on apical ridge. Abdomen rufous, rather dark on first segment, petiole black. Femora black, but front ones rufous on tip, mid and hind femora, all of tibiae, an basal part of tarsi pale yellowish, last few tarsal joints jet black; antennae with six or six and one-half joints jet black, five or four and one-half creamy-white, the last joint brown. Wings nearly hyaline, vitreous, tip of fore wings slightly brown, stigma yellowish, veins brown.

Clypeus large, about two and one-half times as broad as long, upper margin convex projecting laterally a little under eyes, sides oblique lower margin also convex, a few bristles near lower margin; face a little higher than broad, vertex no more narrow than at antennae, lateral ocelli almost twice as far from eyes as from each other; antennae moderately short, the second plus third joints not nearly equal to vertex-width, much short hair on front, longer on vertex; pronotum very short above where it is angulate, broader laterally, in front sloping evenly; pleura white-haired; propodeum about as broad as long, from side evenly curved, much white hair on hind part; petiole of abdomen short, second and third segments much broader than first, last three segments with hairs above, quite dense on last one, venter more sparsely haired. Legs short; hind femora not reaching tip of abdomen, mid tibiae with stout bristles above, hind tibiae with a more or less distinct dark line on inner side, above with long sloping teeth, fine short hairs, and a stout short spine at each tooth, inner spur rather more than a third of basitarsus.

In fore wings the marginal cell is two-thirds its length from wing-tip, not very sharp pointed at tip, barely broader than second submarginal cell; latter almost twice as long below as broad, narrowed one-third above, receiving the first recurrent vein near middle; third submarginal cell one-fourth longer below and above than second, outer vein much sloping and bent near lower end, receiving the second recurrent vein (slightly curved) a little beyond basal third; stigma in marginal cell more than its width, outer side almost obliquely truncate; basal vein plainly before transverse, lower section bulging toward base. In hind wings anal vein ends at forking of cubitus, outer cross-vein slightly beyond middle of radial sector.

Length of fore wings 9 mm.

One female from St. Augustine, Trinidad, 26 July (Weber).
Type M. C. Z. Nº 26.643.

Priophanes major sp. nov.

Body black, antennae and legs wholly black; wings hyaline fore wings with two brown bands, one on basal vein, and a broader one over second submarginal cell and up to costa, tip narrowly dark; stigma yellowish short, obliquely truncate at tip, veins brown. Body quite heavily sericeous, on clypeus, lower face bright silvery; genae and back of head with much long white hair, band across upper pronotum, prosternum, all coxae, lower mesopleura, a large spot each side at tip of propodeum, a little across base, on abdomen not so dense nor as bright, less on first segment than others.

Clypeus about three times as broad as long, truncate below, with long hairs; face much higher than broad, vertex nearly as broad as base; second plus third antenal joints

longer than vertex-width; ocelli in a broad triangle, laterals nearer to eyes than to each other, long hairs on vertex; pronotum scarcely any above, almost all anterior slope, hind margin angulate in middle; with much short hair; mesonotum slightly arched, scutellum a little higher than mesonotum, with long hairs; prododeum broader across base than long, deeply indented in middle of base, from side evenly curved, posterior slope with much white hair, basal part in certain views obscurely transversely ridged. Abdomen with basal segment broad behind, petiole fairly long, last, two segment hairy above, a few on preceding segment, a few hairs on each ventral segment.

Legs moderately long, hind femora plainly thickened toward base and reaching about to tip of abdomen; mid tibiae with two rows of spine-like bristles above; hind tibiae with low teeth from tip and three rows of short stiff bristles, inner spur not reaching to middle of basitarsus.

In fore wings marginal cell quite long, hardly sharp-pointed at tip, about three-fourths its length from wing-tip, a little broader than second submarginal cell; latter one and one-half times as long below as broad, narrowed nearly one-third above, receiving first recurrent vein just beyond middle; third submarginal cell almost twice as long above and below as second, narrowed nearly one-third above, outer vein sloping and then near end bent down, receiving second recurrent vein (extremely sinuous), just before middle; basal vein ends a little before transverse, lower section bulging basally; in hind wings anal vein ends at forking of cubitus, outer cross-vein a little beyond middle of radial sector.

Length of hind wings 11 mm.

One female from Port of Spain, Trinidad 1 October (Cornell).

Priophanes eudora sp. nov.

Body Black, antennae also; femora dull rufous, front pair black at base, tibiae and tarsi brown to black; wings hyaline, fore wings with slender band over basal vein, and second submarginal cell dark and the brown extending into third discoidal cell, tip of wings dark, veins brown, stigma black.

Clypeus and lower face strongly silvery sericeous, under side of coxae, mesosternum, lower mesopleura, large spot each side at end of propodeum, nearly touching, narrow band across base of propodeum, anterior sides of prothorax, and band across tip, all sericeous.

Clypeus quite strongly rounded below, about two and one-half times as broad as long, with much hair; face much higher than broad, broadest in middle, vertex little less narrow than base, joint two plus three of antennae about equal vertex-width; lateral ocelli nearer each other than to eyes; vertex hairy, much shorter on front; clypeus moderately long above (longer than in *plagosa*). angulate behind; propodeum as broad as long, base plainly indented in middle, no median groove, from sides an even but slight curve, above with many white hairs.

Petiole fairly long, abdomen broad on second segment, hair rather dense on last segment above and below, but some even on third segment above. Legs moderately long, hind femora not quite reaching tip of abdomen; mid tibiae with bristles above and on sides, hind tibiae above with rows of sharp spines and small teeth, inner spur not quite one-half of basitarsus.

In fore wings marginal cell about two-thirds of its length from wing-tip, much broader than second submarginal cell; latter about one and one-half times as long below as broad, narrowed one-fourth above, receiving the first recurrent vein beyond middle; third submarginal cell more than one and one-half times as long below as second, narrowed one-third above, outer side strongly oblique and bent a little near end,

receiving second recurrent (slightly bent) plainly before end of first third; basal vein ends before transverse, lower section slightly bulging, transverse a little oblique; in hind wings anal vein ends much before forking of cubitus, outer cross-vein a little beyond middle of radial sector.

Length of fore wings 9.5 mm.

One female from Rio Frio, Magdalena, Colombia, 27 December (G. Salt). Type M. C. Z. no. 26.638.

Ameragenia irene sp. nov.

Body black, abdomen shining, legs ferrugineous, trochanters, extreme tips of femora and tibiae and the tarsi black; in fore wings a brown band over basal vein and a broader one behind stigma; veins brown, stigma nearly black. Little hair on head or pronotum, rather long and plentiful on posterior part of propodeum, tip of abdomen moderately hairy, venter with a few on each segment. Clypeus, and lower face sericeous, hardly any on coxae, a little across tip of propodeum.

Clypeus about three times as broad as long, sides sloping, tip slightly rounded, scarcely any hairs; face but little higher than broad, scarcely narrowed above; second plus third antennal joint a little less than vertex-width, third joint rather long, a few erect hairs on vertex, lateral ocelli much closer to each other than to eyes; pronotum very short above, nearly all in front, hind edge with a separate polished margin, arcuate, scarcely hairy on sides; mesonotum slightly arched; propodeum short, faintly narrowed behind, from side only slightly but evenly curved, posterior half hairy; basal abdominal segment with rather long petiole, lower edges of segment free, last segment with a few fine hairs above and below. Legs slender, hind femora reach tip of abdomen; mid and hind tibiae above with several rows of short black bristles; inner spur of hind tibia one-half of basitarsus.

In fore wing the marginal cell is quite long (tip of wing broken), broader than second submarginal cell latter about one and one-half times as long below as broad, fully one-third shorter above, receiving first recurrent vein a little beyond middle; third submarginal cell a third longer below than second, narrowed fully one-third above, outer side oblique nearly straight, receiving second recurrent (curved in middle) before end of first third; basal vein ends much before tranverse; in hind wings the anal vein ends plainly before forking of cubitus, outer cross-vein before middle of radial sector.

Length of fore wing 7.5 mm.

One female from Vista Nieve, San Lorenzo Mt., Colombia, 27 December (Bequaert). Type M. C. Z. no. 26.609.

NEW AMERICAN TINGITIDAE (HEMIPTERA)

by

C. J. Drake and M. P. Hurd, Ames, Iowa, U. S. A.

The present paper contains the descriptions of two new genera and three new species of American Tingitidae. The types will be deposited as indicated below in the text.

Birabena, n. gen.

Very elongate, narrow, very closely reticulated. Head rather long, convex above, with two pairs of spines (median absent in the three known species). Antenniferous tubercles large, prominent. Antennae moderately long, rather slender; segments I and II stout, short; III, longest slenderest; IV short, rather slender, fusiform. Bucculae reticulated, contiguous in front. Rostral channel very long, with sides raised, the rostrum moderately long. Pronotum long, pitted, tricarinate, broadly emarginate front (fig. 1), the posterior process long, terminating in a point; collar raised, areolate, the median carina in front jointly raised with collar so as to form a small, narrow cyst; poranota narrow, areolate. Elytra very long, narrow; extending beyond tip of abdomen, scarcely wider at base than pronotum, divided into the usual areas, the discoidal area very long, narrow extending considerably beyond middle of elytra. Orifice present. Hypocostal ridge, uniseriately areolate.

Type of genus, *Birabena birabeni* n. sp.

Separated from the genus *Atheas* Champion by its slenderer form, longer head, thorax and elytra, the small hood and the four cephalic spines. The areolae are tiny, veinlets fairly thick. *Atheas elongata* Drake and *A. angusta* Drake and Hambleton are congeneric with *B. birabeni* and herewith transferred to the genus *Birabena*.

Birabena birabeni, n. sp. (Fig. 1)

Very elongate, testaceous, the anterior portion of pronotum, the head and basal two segments of antennae dark brown, the terminal antennal segment becoming blackish apically. Antennae moderately, long, rather slender, the third segment testaceous; proportions 1:9, II:6, III:30, IV:10. Head moderately convex, with four moderately long, testaceous spines; anterior pair slender, turned downward, converging apically; hind pair directed forward, extending almost as far as anterior margins of eyes, enlarged at base, pointed and appressed apically; antenniferous tubercles moderately large, pointed. Bucculae broad, contiguous in front, testaceous. Rostral channel long; the laminae not very high, subparallel, slightly convex within on metasternum, the apices contiguous; rostrum brownish, becoming black apically, extending scarcely beyond middle of mesosternum. Legs moderately long and slender, yellowish brown, the tarsi blackish.

Pronotum slightly convex, tricarinate, the carinae, paranaota, triangular process, collar and hood testaceous; carinae distinctly raised, nonreticulate, the lateral pair slightly convex within on disc, somewhat narrowed behind on triangular

process; paranota rather narrow, narrowest and uniseriate opposite humeri, biseriate in front; collar raised, areolate; hood narrow, not produced forward, formed by the convergence of the collar and the raised anterior portion of median carina. Elytra elongate, somewhat narrowed beyond middle, extending considerably beyond tip of abdomen, entirely testaceous; costal area narrow, uniseriate; subcostal area biseriate; descoidal area elongate, about two-thirds as long as elytra, widest near middle, there five or six areolae deep, the outer margin nearly straight, the entire inner boundary gently rounded; hypocostal ridge uniseriate. Entire body beneath dark brown.

Length, 3.45 mm.; width, 0.85 mm.

Type (female), Puna, S. del Estero, Arg. Dec. 11, 1939 collected by Dr. Max Biraben, deposited in the La Plata Museum. Named in honor of Dr. Biraben, who has done much to increase our knowledge of the invertebrates of Argentina.

Most closely related to *B. elongata* (Drake) Brazil, but larger, with longer antennae, wider paranota, thicker and more highly raised carinae, and the elytra more subangulate at apex. In *B. elongata* the head is shorter, more convex above, and the spines are much smaller. The antennae are also much darker. *B. angusta* (Drake and Hambleton) from Brazil is a much smaller species, with shorter and darker antennae.

Ambycysta, n. gen.

Differs from *Megalocysta* Champion in having tricarinate pronotum, thicker antennae and much smaller pronotal hood. Pronotum sharply tricarinate, the lateral carinae long; hood

large, projecting about as far forward as front of head terminating posteriorly on disc, thus not projecting over triangular process of pronotum. Rostrum long. Orifice distinct. Other characters very similar to *Megalocysta*.

Type of genus, *Ambycysta* (*Megalocysta*) *championi* (Drake) from Brazil. In the genus *Megalocysta* Champion, the hood is enormously developed, constricted laterally near the middle and extends posteriorly over the basal portion of triangular process of pronotum. The lateral carinae are wanting. *Megalocysta cornuta* Monte from Peru and *M. gibbifera* (Picado) from Central America are herewith transferred to the new genus *Ambycysta*.

Gargaphia manni, n. sp.

Moderately large, whitish testaceous, the elytra with four or five oblique, dark fuscous veins. Pronotum moderately convex, black, clothed with very fine, short, white hairs; carinae foliaceous, whitish testaceous, with moderately large, rectangular areolae; lateral carinae slightly constricted near middle; median carina a little higher behind disc; triangular process reticulate, whitish testaceous. Hood small, compressed laterally, highest near middle. Paranota broad, widest opposite humeral angles, there subangulate and four areolae deep, thence diminishing to two in front.

Head reddish brown, the hind pair of spines longer, testaceous; bucculae brownish in front, projecting forward so as to be visible from above; rostral laminae foliaceous, testaceous, the rostrum brown, extending nearly to transverse laminae. Antennae long, slender, finely hairy; segment I long, moderarately stout, brownish, approximately three times as

long as II; II brown, short; III long, testaceous to brown slightly more than twice as long as IV; IV long, fuscousblack, clothed with longer hairs. Elytra broad, the tips separated in repose; costal area wide, with two or three oblique nervures thickened and dark fuscous in color, five or six areolae deep in widest part; subcostal area narrow, biseriate; discoidal area short, about one-third the length of elytra, almost an isosceles triangle in form, truncate posteriorly and three areolae deep, four areolae in widest part; sutural area more closely reticulated near discoidal area. All areolae hyaline. Body beneath brownish, the sides of thorax dark fuscous. Legs very slender, brownish testaceous.

Length, 4.00 mm.; width, 2.00 mm.

Type (male), allotype (female) and 24 paratypes. Waschi, Bolivia, collected by Dr. W. M. Mann, 1921-22. Types are deposited in U. S. National Museum.

This species resembles *G. nigrinervis* Stal, but is easily separated from it by the shape of the discoidal area, the long slender legs and antennae, and whitish-testaceous veins. The carinae and hood are sparsely clothed with inconspicuous hairs.

Gargaphia oregona, n. sp.

Moderately large, rather elongate, testaceous, the head, basal and most of apical segment of antennae and the pronotum, except trinagular portion, brownishblack to black. Head with five moderately long, testaceous spines, the front pair shortest. Antennae long, slender, indistinctly pilose; segment I slightly thicker than II and twice as long; III about three and one-half times as long as IV. Rostrum extending between intermediate legs. Legs long, slender, the tips of tarsi infusate.

Pronotum moderately convex, pitted, tricarinate; carinae strongly foliaceous, the lateral carinae slightly convex within on disc; paranota moderately wide, strongly reflexed, triseriate opposite humeri, biseriate in front; hood moderately large, inflated, longer than high. Elytra rather long, completely overlapping behind in repose, slightly constricted beyond middle; costal area wide, triseriate in widest part, biseriate in front, sometimes largely triseriate throughout; subcostal area triseriate; discoidal area extending to middle of elytra, narrowed at base and apex, widest beyond middle, there quadriseriate. Areolae hyaline, the veinlets clothed with very fine, rather long, erect hairs.

Length, 3.35 mm.; width, 1.25 mm.

Type (male), allotype (female) and 10 paratypes, Corvallis, Oregon, collected by A. L. Lovett, in Drake collection.

This species is probably most closely allied to *G. gentilis* Van Duzee, but the elytra are much longer, with wider costal area.



Fig. 1. *Birabena birabeni* Drake and Hurd.

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